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The Purvis Lecture

ON

THE TREATMENT OF INOPERABLE CANCER.

Delivered before the West Kent Medico-Chirurgical Society on Dec. 6th, 1912,

BY SIR ALFRED PEARCE GOULD, K.C.V.O., M.S. LOND., F.R.C.S. ENG.,

SENIOR SURGEON TO THE MIDDLESEX HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—My first word must be one of grateful acknowledgment of the compliment paid to me in asking me to visit you and to deliver this address—a compliment that is enhanced by the distinction of those who have preceded me in this office and by the presence in the chair to-night of my old and valued friend Mr. Willmott Evans. He it was that suggested that I should select as my subject to-night "The Treatment of Inoperable Cancer," and as I have been for 30 years on the surgical staff of the Middlesex Hospital, and for more than half of that time have had charge of patients in the Cancer Charity of the hospital, I felt that I could do no other than adopt Mr. Evans's suggestion.

GENERAL TREATMENT OF CASES OF INOPERABLE CANCER.

My subject naturally divides itself into two parts, the general treatment of cases of inoperable cancer, and the special treatment of cancer other than by operation for its removal. I will deal with it in this order.

Importance of Mental and Physical Rest.

We sometimes hear it said that "the doctors have given up So-and-so and can do nothing for him," and I want at the outset to enter my protest against the view that, because no operation is possible and no specific treatment is being tried, our art is helpless. One of the first things I learned when I had charge of some of these advanced cases of cancer in the Cancer Charity of Middlesex Hospital was that, with scarcely an exception, every one of them improved after coming into the ward—many of them improved quite markedly—and that the duration of life was nearly always much more than I had anticipated. In other words, the hospital treatment is of great value to them. Part of this good is, I think, the result of mental rest; the relief of anxiety when a very poor man or woman is removed from a poverty-stricken home into a well-appointed hospital, with the assurance that the stay there is to be as long as life lasts, is very great.

The mental quietude the patients usually exhibit is quite striking, and I believe it has important physical effects. In its absence we usually find ourselves unable to relieve these patients as we are accustomed to do. I have often heard from the sister of the ward that "No. so-and-so has not settled down yet," and this is given as the explanation of physical ills. This "settling down" is an important condition of physical well-being in these poor sufferers; it means more than getting accustomed to new and strange surroundings, to the getting over the separation from "home"—a word that is as sacred and as full of meaning upon the lips of a poor hospital patient as from anyone. It means the absence of anxiety about husband or wife and children, the confidence that one's own wants will be met even to the end, and I have come to think that the knowledge of the incurable nature of their illness is also, as a rule, not without its helpful influence. Here, I know, I am making a statement that will not win general acceptance. I am very often requested by the friends of patients not to let them know that they are suffering from cancer, and such a request one is bound to respect. But all the same, I must say that in my experience the knowledge of the real state of affairs has very rarely seemed to do harm, and in the late stage of the disease, when curative measures are not to be thought of, and palliation is our function, it has seemed to do great good.

Only the other day on visiting my cancer patients I came to one who had been in the ward about a month, and was the subject of a very extensive ulcerated cancerous growth in the chest wall—a recurrence after excision of the mamma. I remarked to her on her improvement since she had come in, and asked her how it was. Her answer was that she had everything done for her, and that she had "*no worry*." I have often asked one of the sisters of the Cancer Charity her opinion on this point. She is a woman who possesses the qualifications for her particular work more fully—indeed, I may say more perfectly—than I have ever known them combined in any other individual. I have, therefore, great confidence in quoting her opinion. She has no doubt at all that it is wise to let such patients as come under her—cases of late cancer—know the grave nature of their disease, and that recovery is not to be expected. As an example, she reminded me of a poor woman with advanced uterine cancer, who used to greet her every morning with a tale of the wakefulness of the previous night, of the pain she was then suffering, and of her other troubles. This went on day after day in spite of efforts to relieve her, till one day the sister had an opportunity of having a quiet chat with her, and told her that she feared she was not going to get well. At once the picture changed, she became quiet, uncomplaining, and apparently in far greater comfort, and she told the night nurse when she came on duty what the sister had said to her and how glad she was to know it.

This is a quite usual experience, and in view of it I cannot share the common opinion that patients with malignant disease are to have this fact most carefully concealed from them. Indeed, were it so, the Middlesex Hospital Cancer Charity would be a cruel mistake, its very name would condemn it, and to have wards full of patients, each of whom passes out through the portal of death, would be only to add to the calamities of those it seeks to succour. A visit to these wards soon removes such an illusion; they are, of course, pathetic to those in enjoyment of full health, but the comfort they bring to the patients, and even the brightness they often add to the closing months and weeks of life, are beyond all cavil or question. Of course, I need not explain that I am not advocating either premature or callous or careless lifting of the veil. It requires judgment when to do it, it always needs wise tact in the doing.

One often has occasion to observe the bad effects of mental worry in these patients. Time and again when I find a patient not so well, with more pain or weaker, I learn that there has been some home worry that has caused it—a husband or child ill, or not behaving well, or children uncared for, or the little home broken up, or the sudden cessation of accustomed correspondence. The influence of mind on matter is seen with quite special force and clearness in cases of advanced cancer.

Along with mental rest I attach great importance to physical rest. The degree of this must vary with the powers of the patient and the stage and situation of the disease, but the general working rule I have is to urge my patients never to take any physical exercise or do any work that causes any sense of fatigue. So long as walking exercise is only a pleasure, it should be enjoyed. Later on, it is of service to these patients to sit in the open air and bask in the sunshine when that can be secured. So soon as leaving their bed is any effort or fatigue to them, I always press them to stay in bed. So far as I have observed these patients, rest is one of the primary conditions of their well-being.

The Observance of Strict Cleanliness.

Second only to rest in the management of these cases is cleanliness. In cancer of the mouth, great good follows the frequent use of a mouth-wash, or the gentle removal of particles of food, mucus, or discharge with pledgets of cotton wool. Pyorrhœa should be dealt with with all the rigour of the dentist's art. We must never think that because a patient has hopeless disease it is not worth while to attend to these details, even at the cost of much trouble. I have so often seen great benefit result from these measures that I have no hesitation in urging their adoption. The mouth-wash I prefer is sanitas and water in the proportion of 1 to 2 drachms in 5 ounces, but it is the frequency and thoroughness with which the lotion is used that are of more consequence than the composition of the lotion, provided only that it is not irritating. The mouth must, of course, be well cleansed before and after taking food and at more frequent intervals according to circumstances. I may here add that all loose teeth should be extracted, and that the removal of sloughs and sequestra is often followed by considerable relief.

In uterine cancer the frequent careful use of non-irritating antiseptic douches is, of course, indicated. When hæmorrhage occurs the douche should be as hot as the patient can bear. Here, too, the removal of sloughing masses or the careful curetting of fungating growth is attended with benefit; the curette must be used with care, remembering that in extensive disease it may readily penetrate peritoneum, bladder, ureter, or rectum.

For cancer of the rectum similar measures add much to the patient's comfort; the gentle removal of all particles of fæcal matter or discharge should be attended to. Where colotomy has been done, the washing through of the bowel from artificial to natural anus should be regularly carried out whenever it is possible—I have often been surprised at the amount of local relief and general improvement that have followed this measure. For this purpose I have found nothing better than sanitas and water, an ounce to the pint.

The same care should be taken to keep external cancer as clean as possible. This may be effected by the use of antiseptic lotions, ointments, and dressings; in other cases the use of X rays will be found very beneficial in "cleaning up" extensive and foul cancerous ulcers, and the diathermic cautery will effect the bloodless removal of sloughing or fungating growths, to the very great advantage of the patients.

In addition to such local cleanliness, the general cleanliness of the body and of the patients' habits of course adds to their comfort, and I think also helps them to fight the disease. I have thought that this was one of the smaller ways in which we help the poorest and most neglected among those who come into our Cancer Charity.

The Nature of the Diet.

As to diet, I need say but very little. It should be simple, easily digestible, and varied. I know of no necessity to exclude meat, or fruits, or vegetables. It should not be excessive; in the latest stages these patients are often able to take only very little food, and to give them more only causes vomiting or adds to their pain. In cancer of the mouth or pharynx it is very important that the food should be unirritating and should not require masticating; within these limits, however, it should be as varied as possible, and should include fruit, vegetables, and farinaceous food, as well as milk. I find it very important to warn my poorer patients not to spend their money upon costly beef-tea and meat extracts of little or no nutritive value. There is still a very widespread belief that these preparations are necessary constituents of the diet of all invalids; they may, of course, be taken, but they are not essential, and should never be used instead of the more nutritive milk and eggs. As to other fluids, cocoa is very useful, tea taken neither very hot nor very strong is good, coffee is not so advisable.

Abstinence from Alcohol.—Use of Sedatives and Anodynes.

Alcoholic stimulants of all kinds are, as a rule, to be avoided. I am sure that patients with cancer are better without them; anything approaching a free use of alcohol adds greatly to the activity of the disease. All of us must have been impressed with the malignity of cancer in the intemperate. Patients in our Cancer Charity are allowed to go home occasionally, either for special business or family reasons or for a "holiday," as it is called. They usually come back the worse for the change, and we are generally able to trace this to indiscreet indulgence in alcohol. To mention a concrete case: there is a man under my care now with an extensive epithelioma of the mandible. Last summer he was granted permission to go home for a few days to attend to urgent business matters. He came back to us quite a different man, looking haggard, suffering much pain, and the growth was more active and ulcerative. This was all the result of a free indulgence in alcohol; he is now in a very different state, but he has never got quite back to the condition he was in before that ill-starred "holiday."

I have seen much ill follow the use of alcohol in cancer, and I never order it for this disease. But I very occasionally allow it to be taken. A patient with extreme distaste for food can sometimes be induced to take food if allowed to sip a little beer or wine; in such a case the beer must never be given instead of food, but only as an adjunct to food. Again, some patients have a great craving for stimulants when feeling very weak, and they beg to be allowed to take some; [illegible] re so accustomed to take beer or wine with their food [illegible] protest they cannot eat without it. I find that most of these patients only want a little management, and to understand that in no case will the alcohol benefit their disease, to consent to go without it; but some will not without an undue restriction upon their liberty and happiness.

We all know the force of an appeal coming from one suffering from an incurable malady, whose days here are numbered; unless it is wholly unreasonable we have sometimes to yield. But I wish to make my position in this matter quite clear: I do not regard alcohol as helpful in the treatment of cancer, I believe it to be prejudicial and to make the disease more active and more distressing. I should never order it, and I should only consent to its being taken under special circumstances, and then only in small quantity.

As to sedatives and anodynes, they undoubtedly have a place in the treatment of this disease. Opium and its derivatives I use as sparingly as I can. I have seen cases where the ill-effects of morphia have been more distressing than those of the cancer for which it was prescribed. The patients in our Cancer Charity have little morphia; it is a common event for not a single hypodermic injection of morphia to be given to any one of our 90 patients. Aspirin is given to many of the patients, phenacetin to others; many have a dose of nepenthe at night. Opiates are generally given in the form of the solution of morphia, or of nepenthe by the mouth, or of small suppositories of morphia; only occasionally is a hypodermic injection of morphia used, and we aim at keeping down to a minimum our use of this drug.

When I first saw the practice in our cancer wards—more than 30 years ago—the custom was to prescribe both alcohol and morphia freely; now both are used sparingly, if at all. The difference in the wards is quite remarkable; the patients then suffered far more, and were more irritable, fractious, and difficult to deal with. Now we have no disciplinary trouble, and the patients are far happier and more comfortable. Had I not seen the two systems tried, and myself witnessed the difference in results, I could hardly have credited the value of our present practice as contrasted with that of our predecessors.

Regulation of the Bowels.

Under this division of my subject, there is only one other detail I must refer you to, and that is attention to the regular action of the bowels. It is most important for the comfort of these patients that the bowels should act regularly every day, or at most, every other day. Constipation adds most markedly to their distress; in no case is this more marked than in uterine cancer. I need not here discuss the relative value of the various aperients; I will only say that purging is to be carefully avoided, and the value and harmlessness of a carefully given enema not forgotten.

To sum up, then, the general treatment of late cancer, I should say it should consist in the avoidance of all fatigue, strain, and worry, the observance of strict cleanliness, care and moderation in diet, the proper regulation of the bowels, abstinence from stimulants, and the minimal use of opium and its derivatives consistent with the reasonable comfort of the patient.

PALLIATIVE OPERATIVE MEASURES.

There are certain palliative operations for incurable cancer that may be practised with considerable advantage in properly selected cases. They have received a good deal of attention from surgeons and I need not deal with them at great length.

Gastrostomy.

In my experience gastrostomy is a most valuable procedure in cases of malignant stenosis of the gullet. I prefer Senn's operation, in which the inversion of the stomach wall is used to make a valvular opening into the stomach. I recommend this operation as soon as patients can swallow only fluids; the operation is attended then with very little shock or other danger, food is introduced into the stomach from the first, and the patient very quickly improves in comfort and strength. He is able to feed himself without difficulty or leakage, and not infrequently resumes his work. He may recover some of his lost power of swallowing, life is prolonged for months, sometimes for years, and the patients are spared the pains of death from starvation.

There is in the Cancer Charity at the present time a man who was transferred in January, 1912, from one of the homes for the dying (Friedenheim), with advanced epithelioma of the gullet 15 inches from the teeth, he could swallow thin fluids only and was greatly emaciated and weak I performed gastrostomy for him, and he is now well nourished even plump free from all discomfort, and he has so far recovered his power of swallowing that he takes finely minced meat and vegetables bread and butter, and milk puddings per os He uses the tube into his stomach at least once a day The œsophagoscope shows the annular growth very little, if at all, altered He is up and about all day *and is quite fit for light work, under the terms of the* Charity he is, however eligible for residence with us, as the *disease is still present*

It is important to feed these patients on a mixed diet and where a large tube is used this offers no difficulty, I employ a rubber catheter, No 18 English scale Through that, not only milk and egg, but finely pounded meat vegetables fruit, and bread stuffs can be given If the food when prepared is passed through a sieve of proper mesh there is no fear of blocking of the tube Gastrostomy has I know, been condemned, but I am convinced that it is a good operation, it gives great comfort and no little prolongation of life it does not incapacitate the patient, and is unattended with annoyance

Colostomy

Colostomy for irremovable cancer of the colon or rectum is still the subject of discussion and difference of opinion I am in favour of the operation when there is marked obstruction, severe pain connected with the passage of motion over the ulcerated surface or free hæmorrhage from the growth In these circumstances it prolongs life, saves the patient from the distress attending complete obstruction, and lessens pain In the best cases there is very little trouble connected with the artificial anus, and the patient can follow his employment and is in no way cut off from society All cases are not "the best" however, and we sometimes have a good deal of trouble with the artificial anus difficulty in securing the proper evacuation of the bowel, much discharge and not great relief of pain

I do not advise the operation as a routine measure in all cases of irremovable cancer of the rectum, many of these cases can be helped through their difficulties to the end without the operation It should be employed only when there is definite indication for it, but I have seen such very great relief and benefit follow this operation that I cannot but advise patients to consent to it, and I could not join in the general condemnation of the operation that we sometimes hear I have already referred to the need for regular *and careful cleansing of the bowel below the colostomy,* other details I must not stay to refer to now

Cystostomy for Cancer of the Bladder or Prostate

This operation is sometimes of value I have a very clear recollection of one case, however, in which apparently it afforded no relief to the patient's sufferings, on the other hand I recall several patients who expressed themselves very grateful for the ease it gave them It is especially indicated where the growth bleeds and clots are passed with *great difficulty and pain, and where micturition is very* frequent and agonising

The application of an electric cautery to the neck of the bladder is another means of affording considerable relief to cases of cancer of the prostate where the growth is blocking the urethra and the use of a soft catheter is either attended with great pain or is impossible

Gastro enterostomy—Neurectomy

Gastro-enterostom
is generally attende
longation of life I

Neurectomy for
selected cases certainly has a place in surgery The last case in which I employed it was that of a woman under my care in Queen Mary Ward last June, she had had her right breast amputated for cancer in January, 1911, and when she came under my care she had an extensive recurrence in the neck of the same side which by pressure upon the nerves of the brachial plexus caused *very severe* and continuous pain in the whole of the upper limb She had no sign of deeper recurrence In that case I performed cervical laminectomy and divided the posterior roots of the nerves from the third cervical to the second dorsal inclusive on the right side She lost her pain entirely and expressed herself as very grateful for the relief, which continued up to the time of her death in July

Paracentesis

Paracentesis either of the pleura or peritoneum is a simple *operative procedure often attended with great benefit* As a rule the fluid re collects and sometimes very rapidly, but this is not always the case I should postpone tapping until the pressure of the fluid is causing *marked dyspnœa* or abdominal distress but at that point the relief afforded is very welcome to the patients

As an example of the value of this procedure and of the remarkable results occasionally obtained I may mention a case I saw in consultation with Dr W H Bourke The patient was a married lady aged 43 whom I saw first in June, 1909 She was sitting up in bed suffering from extreme dyspnœa, the right chest was dull all over and entirely immobile, the heart's apex beat was felt in the left axilla She was very emaciated and the right mamma was the seat of a small atrophic scirrhus for which she had never sought advice I punctured the right pleura and drew off a wash basin full of serous fluid, the relief afforded was immediate and very great In a month I was called in again as the dyspnœa had recurred and I then drew off nearly the same quantity of fluid from the right pleura I had to tap the right pleura again on Sept. 28th and in December On Jan 20th, 1910, I was summoned in a great hurry and found the lady in really very urgent distress, the dyspnœa was even more alarming than before and I now found signs of fluid in both pleuræ From the right pleura *I drew off about two pints and from the left pleura three* pints She was again at once completely relieved *From this date no further collection of fluid occurred in either pleura*, the right side of her chest gradually contracted down and eventually became quite dull and immobile, and no breath sound was audible in it—the result of cancerous growth The left lung and pleura were unaffected Soon after the fifth and last tapping of the pleura we found that fluid was accumulating in the peritoneum, this was drawn off with Southey's tubes on many occasions, but at increasing intervals during the next 12 months This lady died in May, 1912, very nearly three years after I was first called in to relieve urgent distress from a very large pleural effusion caused by cancerous metastasis During nearly the whole of this time the lady was able to get up to walk and drive about to meet her friends and to travel It is the most remarkable case of the kind that I have yet seen I have seen others where a pleural effusion due to malignant disease has not *recurred after one or more tappings* I mention this because I think the general impression is that the fluid re collects so quickly and so surely that it is hardly worth while to tap these patients, in many cases this is not so and the fact should not be assumed

The remarkable relief of pain of vomiting and of optic neurosis in cases of cerebral tumour afforded by *decompressing operations* is well known and I need only to mention it as one of the operations to be advised in cases of irremovable malignant disease

*The operation of lymphangioplasty has been in my experi*ence a disappointing procedure, and I doubt if it is worth doing

Diathermic Coagulation

By the use of an extremely rapid oscillating electric current in such quantity that it produces great heat the tissues can be immediately coagulated to a distance of half an inch or more from an electrode By this means we can remove sloughing and ulcerating growths without pain and
de should be in the form
tissues can be scraped or
under the anæsthetic or
can be allowed to separate The absence of all bleeding makes this method of removal much superior to all forms of curettage or cauterisation

There is probably a somewhat wide field for this modern application of electricity The current employed is very much stronger than has been used before for man, it can only be obtained where an alternating current is available, and where the services of an electrical expert can be obtained Such a powerful means of producing instant coagulation of tissue must of course be used with care and the ease with which it can be employed and its bloodless
ness make us unmindful of the limitations
must be its application

He considers also that the radio-activity of a mineral water may have an influence in the production of goitre. He believes that all goitrigenous waters are true mineral waters of a peculiar kind, and holds that their points of exit from the earth's interior—for such waters must come from great depths—are to be found in the lines of dislocation of the lithosphere, and by preference in the most recent or those which have not yet had time to become obliterated. He considers that these waters exercise on the general metabolism a powerful action of which the thyroid hypertrophy is only the reverberation. He bases his hypothesis on the work of Senator, Leopold-Lévi, de Rothschild, and others, who have shown that the thyroid mechanism controls the metabolism of lime. He explains the enlargement of the thyroid as an effort on the part of the gland to maintain, by augmenting its secretion, the chemical balance of the organism in the presence of a state of hypercalcification, induced by the use of water containing lime. His experiments on rats have confirmed him in this opinion. (Fig. 13.[2]) He has recorded that even heating the water to 100° C. for several minutes does not deprive it wholly of its goitre-producing properties. He believes prolonged boiling, or expulsion of its carbonic acid content, to be necessary to cause a precipitation of the dissolved salts on which, in his opinion, the goitre-producing properties of the water depend.

The views of *Répin* may be summed up thus: *That goitrigenous water is invariably mineral water; that in this water exists some chemical ingredient—possibly salts of lime and magnesium, possibly radio-active substances—which is the active principle in the production of goitre and resists a temperature of 99° to 100° C. for several minutes.* Now Wilms has shown that water raised to a temperature of 70° C. loses its toxic properties, and this result is in conformity with my own findings and those of Bircher, Breitner, Lobenhoffer, and others. But even if a temperature of 100° C. did not destroy the toxic agent of the disease, the fact would not exclude the possibility of an infective agent as the cause of goitre. I have, for example, isolated from the fæces of sufferers a spore-bearing bacillus which not only resists boiling for several minutes, but also exercises a curative influence on the disease when employed as a vaccine. The fact that Bircher has produced goitre in rats by means of water filtered through a Berkefeld filter might be quoted in support of Répin's views, but here again such treatment of the water is not sufficient to exclude the possibility of an infective agent, since this method of filtration does not render the water sterile. I am not prepared, therefore, to accept as final Répin's view as to the effect of heat on goitrigenous water.

Nor am I able to agree with his view that the goitre-producing properties of a water may be due to its radio-activity. Répin holds that goitrigenous waters are amongst the purest known, but he has advanced no bacteriological observations in support of a statement of such moment. The bacteriological researches of the Swiss Goitre Commission have proved that such waters almost invariably show an infinitely higher bacterial content than innocuous water, and we know that in radio-active waters the bacterial content is low. My own experience is in direct opposition to that of Répin, and exactly parallel to the results of the Swiss Commission. I am also informed by Professor Kolle that this Commission has failed to confirm in Switzerland Répin's supposition as to the radio-active properties of goitre-producing waters.

The lime and magnesium theory has already been dismissed as untenable, and in answer to the claim that goitre is due to the mineral character of the water, I have the authority of Dr. Cresswell Howell, of Bega, in New South Wales, for stating that goitre, to his personal knowledge, occurs in this locality, where the only source of water-supply is rain, while Veichardt mentions the case of the people of Eichstätt who are goitrous, though they drink rain water only. Similarly, in other goitre-infected regions the only drinking water is derived from snow, a fact responsible for the popular belief whereby goitre is attributed to the consumption of snow water. There are also recorded instances where the disease has arisen in persons drinking distilled water only. In this connexion I would refer again to the outbreak of goitre in the Bishop Cotton School at Simla, where whatever may have been the cause of the disease it certainly was not the water-supply, and this is only one of many similar instances with which the literature supplies us.

While, therefore, I would not go so far as to deny that the peculiar waters with which Répin is dealing may possess some quality which tends to excite the functional activity of the thyroid gland, it is immediately obvious that the explanation offered by him cannot be accepted as a complete and satisfactory theory of the origin of the disease.

Two main facts emerge from a study of the geological relations of the soil to goitre—viz., (1) that the disease appears to show a preference for certain soils; and (2) that it can, nevertheless, prevail on soils of any geological formation. Knowing, then, as we now do, that the essential cause of goitre is not a dissolved mineral ingredient derived from limestone soils, we must seek elsewhere an explanation for the connexion of the disease with the soil.

THE NATURE OF THE TOXIC AGENT OF GOITRE.

Such an explanation must involve some prior determination *of the nature of the toxic agent of the disease.*

Now the arguments upon which is based the explanation I have to offer rest upon a consideration of the behaviour of the endemic itself, upon deductions drawn from authenticated outbreaks, on my own observations in endemic centres, upon the conclusions to be drawn from the valuable work of Marine and Lenhart, who have studied the disease as it occurs in artificially bred trout, and finally upon my own experiments on man, and still more recently Bircher's on rats.

In a previous section dealing with the behaviour of the endemic we arrived at the conclusion that the evidence pointed to the existence of a living excitant. Nor can any other conclusion satisfy the difficulties presented by the outbreaks at Nagar and in the Boys' School at Simla, to which reference has already been made. To these instances I am able to add the experiences of Dr. Cresswell Howell, of Bega, in New South Wales. He has been kind enough to send me an account of an endemic of goitre in his district. The affected area is a stretch of undulating country about 30 miles long by 20 miles broad, and lies in a depression *among high hills. The prevailing rocks are granite.* The people are all of the farming class. The water-supply is rain water, which is collected from the roofs of the houses and stored in tanks. These tanks are only cleaned out on the rarest possible occasions. Dr. Howell informs me that he has examined the deposit in about 100 of these tanks and found it swarming with bacteria and animalcula of all kinds. A large number of young adults suffer from "a not very serious form of goitre." The swelling is invariably bilateral, gives rise to no pain, and rarely gives rise to symptoms. The goitre usually develops about the period of adolescence. Cretinism is also met with, but it is not of a severe type.

Here we have an endemic which, if it can be attributed to water at all, can only be due to the drinking of rain water which has become fouled by the washings from the dusty roofs and by its storage in dirty tanks. Clearly in this case, also, the disease is due to no dissolved ingredients, but to some living excitant, which finds in these tanks the necessary nutrient material for its life and growth.

Of my own observations, I will now direct your attention to those that deal with the village situated on the Gilgit Fan.

PREVALENCE OF GOITRE IN THE VILLAGES OF THE GILGIT FAN.

In the accompanying table I have indicated the prevalence of goitre in these villages, as determined by me in the winter of 1904. The figures are accurate, especially as

Village.		Population.	Houses.	Infected houses.	Per cent. of infected houses.	Per cent. of persons infected in infected houses.	Per cent. of total population goitrous.
1.	Basin	93	15	9	60 0	21·2	11·8
2.	Umphris ...	385	66	42	63·6	23·3	20 0
2A.	Damyal ...	181	30	20	66·6	30·3	18·8
3.	Majinpharri	718	108	68	63·2	24·2	20·0
4 and 5.	Ky-K	229	33	23	71·5	30·0	26·9
3A. 4A.	Sonyar ...	458	63	52	82·5	30 0	24·5
3, 3A. 4, 4A.	Kashrote ...	128	24	21	87·0	36 0	45·6

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[2] This figure and Figs. 6, 7, and 8 will be printed together with others as a separate plate.

concerns children and males; but as concerns women I had often to rely on the statements of their male relatives as to whether they were goitrous or not.

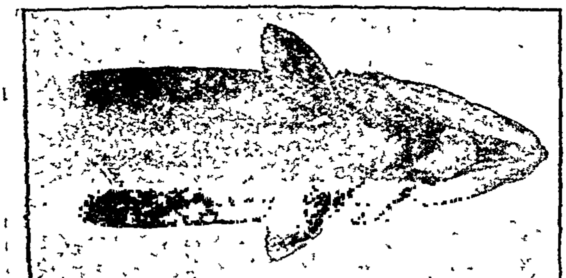
From this table it is seen that the percentage of infected houses, of infected individuals in these houses, and of the total population suffering from goitre, goes on increasing from the highest to the lowest village on the water-channels. In a paper which I read before the Royal Medical and Chirurgical Society of London in 1906, when describing the prevalence of goitre in these villages, I commented on the fact that where the polluted water of the main channel was joined by the purer supply from the Barmis spring the progressive increase of the disease was arrested.

The chemical composition of the water as it flows through the villages is the same as at its source. Only this difference could be detected in the water taken from the channel at Kashrote: it contained a larger amount of mineral matter in suspension, more vegetable débris, more amorphous matter, more animalcula, and on plate cultures it showed a much richer bacterial flora than the water at its source or higher up the kūl. It is, therefore, obvious that the increase in the disease bears a relation to the increasing organic impurity of the water, and we are again driven to the hypothesis that the toxic agent is a living excitant.

ENDEMIC GOITRE IN ARTIFICIALLY BRED TROUT.

Consistent with these conclusions are the deductions to be drawn from the paper written by Dr. Marine and Dr. Lenhart, and entitled, "Observations and Experiments on the so-called Thyroid Carcinoma of Brook Trout and its Relationship to Ordinary Goitre." These observers found that the so-called thyroid carcinoma was "severe endemic goitre." (Fig. 4.) Any peculiarity which the tumour in fish shows is due to the fact that the thyroid gland in fishes is not encapsuled, consequently as it enlarges it tends to grow into neighbouring structures.

FIG. 4.



Large external goitre in trout (Marine and Lenhart).

I shall now quote those parts of Dr. Marine and Dr. Lenhart's paper which have a special bearing on the present subject:—

> Our observations and experiments were made during October and November, 1909, at a large private fish hatchery in the mountains of Pennsylvania.
>
> The arrangements of the houses a
> This is shown in the figure (Fig. 5).
> series down the course of the broo
> simple. There is but a single spring supplying the upper six houses, while the lower five receive the water that has passed through the upper six, together with that from a second small spring and a 6 in. pipe line from a large stream about a quarter of a mile to the left.
>
> On account of the increased water supply, and for the clearer understanding of certain observations to be mentioned later, it is best to divide the series of tanks into an upper and a lower division. Between the upper and lower division of houses (that is, between Houses VI. and VII.) the water follows the original brook for a distance of about a quarter of a mile. Then it is again collected by means of a dam and enters the lower division of houses with the additions to its volume above mentioned. The water coming from the spring above all houses to the first house—a distance of about 50 yards—is also allowed to follow its natural bed. Apart from these two exceptions, the water is carried in covered raceways made of lumber.
>
> Houses I., II., III., and IV. contain 8-months' old fish. Houses V., VI., VII., and VIII. contain 1¾-year-old fish, and Houses IX., X., and the first pair of tanks in House XI. contain 2¾-year-old fish. The last pair of tanks in House XI. contains 1¾-year-old fish ...... the three most *important localities* as regards the effect of water-supply and water pollution are Houses VI., VII., and the last pair of tanks of House XI., which contain fish of the same age—that is, 1¾ years.

As a result of their examination of specimens of fish taken without choice from all the tanks, also specimens of different ages from the raceways above and below all houses, and lastly specimens of the larger 3¾-year-old fish from the trout stream near by, the authors concluded that:

> Fish which lived in the raceway above all houses and which have never been confined in the tanks maintain normal thyroids throughout their lives. Then, beginning with the series of tanks, it was shown that the 8-month-old fish are markedly affected even in the uppermost *of all the tanks*, and that there is a gradual increase in the degree of thyroid proliferation, which reaches its greatest extent and severity in the last house (VI.) of the upper division. Beginning with House VII.
> there is a marked improvement a
> proliferation coincident with the
> the probable purification of the w
> passage for a quarter of a mile alon
> improvement cannot be followed
> houses of the lower division, for th
> housed here, but the general impression is that *this improvement is* maintained throughout the remaining tanks to a gradually lessened extent. Lastly, the examination of the fish from the tail race, living wild, but in the polluted water, has shown that their thyroids are *normal in type*. Also examination of older fish obtained from both the tail race and the larger stream above the entrance of the tail race into it, have shown that, although the thyroid tissue has invaded all the structures beneath the pharyngeal mucosa at some past period of their lives, nevertheless, their stay of five to six months in a natural environment has effected a complete natural relief from the exciting cause or causes of the thyroid proliferation, and that the thyroids have resumed their resting or colloid state.

The authors conclude that "overfeeding, overcrowding, and a limited water-supply, are the major factors in the production of filthy, unhygienic tanks or ponds, and the unsanitary, unhygienic, and filthy tanks are in a very important but still unknown manner associated with the development of thyroid hyperplasia."

Gaylord's observations on goitre in fish are in complete agreement with the findings of Marine and Lenhart. He also has observed that where fish are confined in tanks situated one above the other, and through which the same water flows from one to the other, the prevalence of the disease increases markedly from above downwards. He gives the following table, which shows this increase:—

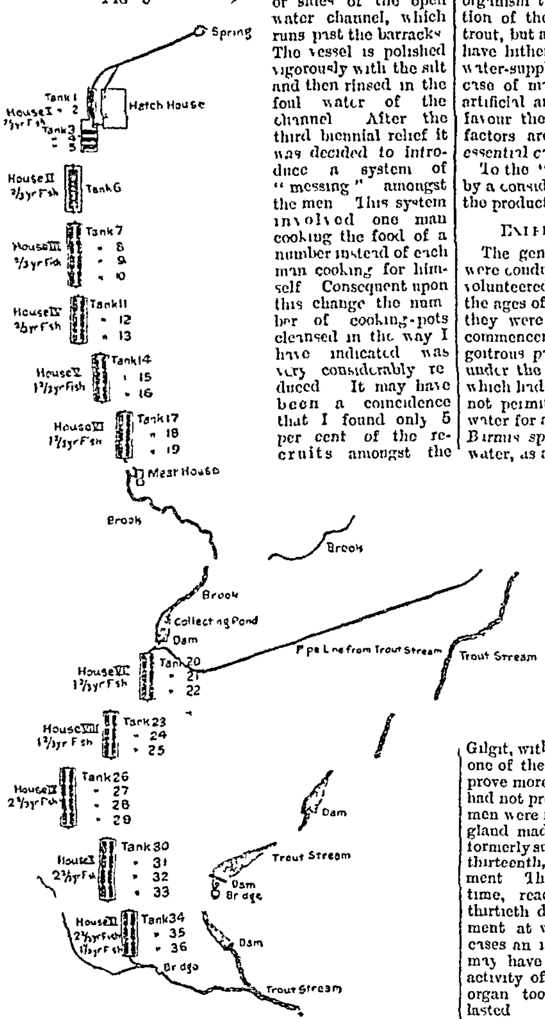
Water above the tanks	Fish goitre free.
,, in first tank	3 per cent goitrous.
,, in second tank	8 ,, ,,
,, in third tank...	45 ,, ,,
,, in fourth tank	84 ,, ,,

You will notice that the account of goitre in artificially bred trout corresponds in a remarkable way with my description of goitre in the eight villages of Gilgit, written in 1905. There is the same increased prevalence of the disease as the water becomes more polluted, and a diminution in the amount of the disease as a result of dilution of the impure water with the fresh spring water. The trout also conform to that striking characteristic of endemic goitre—viz., the capacity of spontaneous recovery on removal from the infected area. The markedly place-character of the disease, even in the case of these fish, is thus well illustrated.

Now, it is clear in the case of the trout that the influence of water in causing the disease cannot be doubted, and that whatever substance caused the disease remained behind in the tank. Anyone who has watched artificially bred trout in tanks will have observed their habit of "nosing" about the walls and bottom of the tanks. It is precisely in these places that suspended matter deposits itself. This deposit is made up of the remnants of food, and forms a nidus for the growth of numerous bacteria and animalculæ. I hold that it is in this deposit we must look for the causal agent of the disease, since it existed neither in the water flowing into the first tank, nor in that escaping from the last, in sufficient quantity to cause goitre.

Let us see what further evidence we have in this direction. I have stated that young soldiers who come to Gilgit frequently develop goitre within a few months. I have examined these soldiers for goitre on three different occasions, about six months after the biennial reliefs On he first two occasions it was noted that the recruits suffered o the extent of 20 to 22 per cent On the third occasion only 5 per cent were found to be goitrous Now, it is the custom of the men to cook their own food, and for this purpose each man is provided with a large assortment of brass vessels These he "cleans" by picking up a handful of silt from the bottom or sides of the open water channel, which runs past the barracks The vessel is polished vigorously with the silt and then rinsed in the foul water of the channel After the third biennial relief it was decided to introduce a system of "messing" amongst the men This system involved one man cooking the food of a number instead of each man cooking for himself Consequent upon this change the number of cooking-pots cleansed in the way I have indicated was very considerably reduced It may have been a coincidence that I found only 5 per cent of the recruits amongst the men goitrous, but I do not think so, and I am inclined to attribute the fall of the incidence of the disease from 20 to 5 per cent to a lessened infection from the soil by way of cooking-pots and infected hands which followed as a consequence of the "messing" system This system was, however, not popular amongst the men, so they reverted to their former habits of cooking, when I found that the percentage of goitre amongst the recruits again rose

FIG 5



Semi-diagrammatic drawing of the plan, arrangements and location of the hatchery, water supplies, houses, and retaining tanks (Marine and Lenhart)

Marine and Lenhart believe, as a result of their observations, that goitre is the *symptomatic manifestation of a metabolic and nutritional disturbance*, and that food is the major factor acting to bring about a fault of nutrition favourable for goitre development Comparing their results with the conclusions to which we have already been forced, we may admit that whereas a "metabolic theory" of goitre is not inconsistent with some of the facts, it fails to provide an explanation for all On the other hand, the "micro-organism theory" not only provides a satisfactory explanation of the development of the disease in artificially bred trout, but also of the experiments and observations which we have hitherto discussed While recognising that a limited water-supply in the case of fish, or a limited air space in the case of man, over crowding and over-feeding with a highly artificial and incomplete food, are factors which markedly favour the development of goitre, I am of opinion that these factors are of secondary importance only, and that the *essential cause of the malady is a living organism*

To the "micro organism theory" further weight is added by a consideration of the results of experiments directed to the production of goitre in man and in animals

EXPERIMENTAL PRODUCTION OF GOITRE IN MAN.

The general conditions under which my own experiments were conducted may be summarised as follows The men who volunteered for the experiments were young, usually between the ages of 18 and 25, they were newcomers to the district, they were under observation for some time prior to the commencement of the experiment, they lived in a non-goitrous part of Gilgit, not far from the village of Barmis, under the strictest guard, they were encamped on ground which had never been cultivated, they did no work and were not permitted to handle the soil, they were provided with water for all domestic purposes which was brought from the *Barmis spring at its point of exit from the hillside*, the water, as an added precaution, was boiled In no case was the restraint imposed upon the men broken through Water, purposely made muddy by agitation while flowing through its channel was brought daily from the village of Kashrote where goitre is very common It was filtered in large quantities through a Berkefeld house filter The deposit on the candle was washed off in distilled water, and a quantity of the dark grey mixture, equal to about 4 oz, was given to each subject in milk every morning before the first meal of the day

The first experiment was carried out in the spring of 1906 Six healthy young men, aged between 18 and 20, were the subjects Two of these had formerly resided in Gilgit and had suffered from small enlargements of the thyroid These swellings had disappeared on their leaving Gilgit, with the exception of a small nodule in the isthmus of one of them It was thought that these men were likely to prove more susceptible to goitrous influences than men who had not previously suffered from the disease The other four men were in all respects normal A swelling of the thyroid gland made its appearance in both of the men who had formerly suffered from goitre In one case it appeared on the thirteenth, in the other on the fifteenth day of the experiment The swellings fluctuated considerably from time to time, reached their point of maximum size about the thirtieth day, and then retreated to a point of enlargement at which they remained stationary In two other cases an increased pulsation in the vessels of the neck may have been the evidence of an increased functional activity of the gland, but no appreciable swelling of the organ took place during the 53 days the experiment lasted

In October of 1907 I submitted myself to the same experiment My house was situated in the Barmis village and my drinking water was the innocuous water of the Barmis spring Photographs indicate the change which was observed in my thyroid gland as a result of the experiment, which lasted one month The circumference of my neck increased by 2½ cm I first noticed the swelling on the fifteenth day of the experiment The enlargement fluctuated from time to time, as is observed to be the case in all commencing goitres

In the spring of 1908 the experiment was repeated in the case of six other young men in whom the thyroid was perfectly normal In two cases an appreciable swelling of the thyroid gland occurred which gave rise to an increase in the circumference of the neck in both cases of 1½ cm. In a third case the man was conscious of a sense of "fullness of the throat" at times; there was an increase of 1 cm. in the circumference of the neck, and throbbing of the vessels was from time to time observed. The other three cases showed no appreciable change during the 30 days the experiment lasted.

Coincident with this experiment six other young men living under precisely similar conditions were given, for a period of 30 days, the *boiled* suspended matter which had been separated by filtration from the muddied Kashrote water. It was subjected to boiling for ten minutes. Neither by manual examination, measurement, nor photography could an increase in size of the thyroid be detected in any of the six individuals.

Similar experiments were carried out in the autumn of 1907, with the exception that the residue in this case was not separated from the water by filtration, but the water was allowed to sediment and the deposit administered as indicated. Of 13 young men so treated, 2 developed slight enlargements of the gland which [illegible] while in 2 others a more pronoun[illegible] which was permanent.

Simultaneously with this experiment 13 other young men were given the Kashrote water sediment which had previously been *boiled* for ten minutes. It was administered at the same time and in the same doses. In none of these men could any reaction on the part of the thyroid gland be detected. The experiments lasted for 30 days.

In the spring of 1910 large quantities of the residue, separated from the muddied water of Kashrote by means of a Berkefeld house filter, were administered night and morning to 10 young men of the average age of 22. Of these, 4 showed no reaction whatever on the part of the thyroid gland during the 55 days the experiment lasted. One developed a slight enteritis on the fifteenth day, when the experiment in his case was discontinued. Well-marked changes were observed in the remaining 5 cases. In one of these, in addition to the complaints of tightness of the shirt collar [illegible] ement of the neck i[illegible] the measure[illegible] swelling was first noticed on the sixteenth day of the experiment, and the right lobe was more prominent than the left. The degree of enlargement can be well seen from photographs.

In a second case the reaction was more marked and resulted in an increased measurement of the neck of 2½ cm. The photographs of the case are especially good. (Figs. 6 and 7.) In a third case the swelling was more marked in the isthmus, which was felt as a rounded boss under the finger; it partially disappeared behind the sternum when the trachea was at rest. In a fourth case the circumference of the neck increased by 1½ cm., and in a fifth by 1 cm. In the first four cases the swelling persisted, in the fifth case it disappeared spontaneously, and while the patient was still drinking the residue.

Concurrently with this experiment 10 other individuals were given the same quantities of Kashrote water residue which had previously been *boiled*. Five of these men were selected as havin[illegible] of the thyroid. The duration of the [illegible] also was 55 days. In no case [illegible] [o]f the thyroid gland be d[illegible] [illegible]ion. In the five men wh[illegible] the original and final measurements of the neck were as follows:—

	cm.	cm.
(1)	34	3 ½
(2)	34	33
(3)	32	30½
(4)	35	34½
(5)	33½	33

These results show that the tendency to alteration in size of the thyroid was in the direction of diminution and not of increase.

All the cases of artificially produced goitre were rapidly cured by the administration of thymol.

The combined results of these experiments may be summarised as follows: 1. Of 36 individuals who consumed the untreated suspended matter of a notoriously goitre-producing water, 21 exhibited no change in the thyroid gland which could be detected clinically, 10 developed a notable enlargement, while 5 showed a swelling of the organ of a transitory character. 2. Of 31 individuals who consumed the same suspended matter, which had been previously boiled, none showed any reaction in the direction of increase in size of the thyroid.

In order to determine the effect of the administration of *filtered* water to selected individuals under the conditions of the experiments above quoted, I gave 7 men the filtered Kashrote water at the same time that 10 others were consuming the suspended matter separated from it by the Berkefeld filter. In 4 of these individuals the thyroid gland was perfectly normal on the date the experiment commenced; the other 3 were subjects of incipient goitres. All 7 drank only the filtered Kashrote water for 55 days. At the end of this time and during the course of the experiment, not only had no increase in size of the thyroid taken place in any of the individuals, but the existing goitres of the 3 men showed a considerable reduction in size. It is to be remembered that the suspended matter removed from the water by filtration had produced a thyroid swelling in 5 out of 10 individuals who consumed it while the subjects of the present experiment were [illegible]ed water.

With the exception of [illegible] filtered water—which, owing to the small number of men employed, I do not regard as wholly conclusive—these observations have been repeated sufficiently often, and the results have been so constant in character that I feel justified in drawing the following *conclusions*:—

1. Thyroid enlargement can be experimentally produced in man within a few weeks by the administration of the suspended matter separated by filtration *from goitre-producing waters*.

2. Thyroid enlargement cannot be so produced when the suspended matter is boiled.

3. The goitre produced in this way must almost certainly be due, not to the mineral, but to the living component of the suspended matter.

4. While it cannot be said to be definitely proved by these experiments that filtration through a Berkefeld filter wholly deprives the water of its goitre-producing properties, water so treated does not appear to be capable of causing goitre in man within a period of 55 d[illegible]

The results of th[illegible] days. [illegible] the observations I [illegible] these experiments an[illegible] [illegible]*ving excitant* have already quoted indicate that *the* [illegible] in com[illegible]*osit at the of goitre exists in greatest abundance in the d*[illegible] [illegible]*d other bottom and sides of water-channels, tanks, wells, an*[illegible] *receptacles of goitre-producing water.*

BIRCHER'S EXPERIMENTS.

I propose next to consider E. Bircher's experiments on rats. His results, published in various papers since 1909 up to the present time, may be summarised as follows:—

1. Goitre can readily be produced in rats by the natural water of goitre-producing springs.

2. The thyroid enlargement does not arise till after several months' subjection to the toxic substances contained in the water.

3. These toxic substances are destroyed by heat (boiling).

4. They are not removed from the water by filtration through a Berkefeld filter.

5. By centrifugalisation it is possible to render goitre-producing water innocuous.

6. The addition of certain chemical substances, such as hydrogen peroxide, to the water renders it harmless. (Marine and Lenhart have shown that the addition of small amounts of iodine, in the form of Lugol's solution, to the water causes a rapid disappearance of the thyroid hyperplasias of trout.)

7. Dialysis removes the goitre-producing substances from the water.

8. Substances separated from the water by the membrane of the dialyser are capable of producing the disease.

In his earlier papers Bircher has stated that the residue left on the candle of the Berkefeld filter after filtration does not cause goitre, but in his later papers (1911) he corrects *this statement*, and points out that while consumption of this residue for a period of nine months fails to produce any intense goitrous degeneration of the thyroid, goitres are produced after 12, 15, 18, and 20 months' consumption of this residue.

The photograph which I now show, and with which Dr. Bircher has been kind enough to provide me, illustrates these various methods of producing goitre in rats (Fig. 8).

Bircher's latest conclusions, as a result of his experimental work, appear to be that the water of goitrous localities derives from certain soils an organism which imparts to it a toxic substance of a colloid nature, and it is this substance that excit [illegible] He further believes that this [illegible] for the production of cretinism, [illegible] alone causes goitre. He bases this somewhat complicated conclusion on the fact that he and Wilms have produced goitre by means of filtered water. But, since the disease can also be produced by the residue on the candle and by the residue on the membrane of the dialyser, it appears to me to be simpler to conclude that the organism itself passed through the pores of the Berkefeld filter in their experiments.

It is well known that the passage of a water through a Berkefeld candle does not render the water sterile, and that the smaller bacteria (Schmidt) and ultra-microscopic organisms can find their way through it. This is particularly likely to occur when a filter is in constant use unless the candle is cleansed with care, and frequently boiled and renewed. Indeed, unless this is done it may become a source rather than a preventive of infection. Dr. Bircher has told me that a much longer period is required in which to produce goitre in rats by means of filtered water, a fact which appears to me to indicate that this method of filtration removes only a part of the goitre-producing substance. My experiments have shown that while the candle of a Berkefeld filter removed from the water a substance which caused goitre in 50 per cent. of men within a period of 55 days, the same water cleansed by this method of filtration failed to produce the disease in a limited number of men during the same period. It is possible, of course, that an organism living in water may impart to it toxic products, which, being in solution, will readily permeate the filter, but whether or not this is the case the organism which gives rise to such products must be regarded as the essential cause of the malady. Bircher's water is, in my opinion, inadequately filtered, and I must confess that for my own part until it has been demonstrated in man that adequate filtration fails to render a goitrigenous water innocuous I shall be unable to accept in their entirety the deductions of Bircher.

Bircher had produced goitre in rats only after the animals had been subjected for several months to the action of the excitant of the disease, while in men a reaction has been observed by me as early as the thirteenth to the fifteenth day. Now it is known that under natural conditions the disease can make its appearance in a much shorter time than several months—in a period, in fact, which corresponds closely with my findings in the case of the experimentally produced goitre of man. But this apparent difference is to be accounted for by the fact that the minute size of the lobes of a rat's thyroid would make the recognition of the earliest stages of the enlargement a matter of extreme difficulty. Indeed, unless animals were killed every day from the thirteenth day of the experiment onwards, it would be impossible to detect the beginning of the swelling. In man, *on the other hand, the larger size of the gland*, and the ease with which its changes in size can be appreciated by measurement and photography, make easy the recognition of the earliest signs of enlargement. Bircher was able, in the case of rats, to carry his experiments to a point which is not legitimately possible in the case of man. His goitres in rats are, therefore, relatively as large as those which are found in man after exposure to goitrous influences for a period of 12 months or longer. His results differ from mine only in this respect, that I have noted the earliest stages of the disease in man, while he was able to prolong the experiments [illegible] the residue [illegible] a Berkefeld filter, that he was able only to use a very few animals owing to the difficulty of procuring from the candle sufficient residue. In the case of my experiments in man I overcame this difficulty by making the water muddy at the time it was drawn, thereby obtaining a residue which contained the excitant of the disease in large amount. Considering the small amount of residue used by Bircher, the results produced thereby (Fig. 8) are very marked.

I consider, therefore, that Bircher's results in rats substantiate my previous findings in man, and that *the presence in suspension in goitre-producing waters of a living agent, which is the direct or indirect cause of the disease, has been demonstrated*; and with this conclusion Dr. Bircher has expressed to me his agreement.

The following are the characteristics exhibited by experimentally produced goitre in men.

(1) It usually appears about the fifteenth day of the experiment.

(2) It shows a marked tendency to fluctuate in size.

(3) It reaches its point of maximum size between the twenty-fifth and thirtieth day of the experiment.

(4) The enlargement of the gland is not great, nor is it progressive under the conditions of the experiment.

(5) It is accompanied, as a rule, with certain subjective symptoms of throbbing in the neck and feelings of fulness and discomfort.

(6) It may completely disappear under the conditions of the experiment.

SOIL A VEHICLE OF INFECTION.

Having, then, thus determined the toxic agent of goitre to be a living excitant, there remains the problem of the relationship of the disease to the soil.

The following are the facts which it is necessary to coördinate and explain:—

Firstly: The greater prevalence of the disease among the poorer, and especially the labouring classes, whose habits of life render them more susceptible to infections that lurk in the soil.

Secondly: It is a well-known fact that the inhabitants of country districts whose habits of life bring them into contact with the soil show a much larger percentage of victims than inhabitants of towns.

Thirdly: The extraordinary history of the disappearance and recrudescence of the disease in Martigny (Valais) requires some explanation other than the water-borne theory. The facts of this case as quoted by St. Lager are: "In the year 1818, owing to a great flood, the soil of the valley, which was moist and marshy, was suddenly covered by plant earth, to a depth of one metre, which had been carried from the mountains." As a result of this renewal of the soil, goitre and cretinism progressively diminished. Later these diseases again increased, due, it is stated, to the introduction of a new water-supply. It is not unlikely, however, that reinfection of the soil was largely responsible for its recrudescence.

Fifthly: There are the instances quoted by St. Lager and others to [illegible] of water rendered innocuous by [illegible] in itself sufficient invariably to [illegible] of persons resident in goitrous localities. We have also the authority of New Zealand physicians for stating that goitre prevails in parts of the North Island, where the only water used by the people of the district is that of the boiling springs.

Sixthly: I have the evidence of certain experiments which I am about to detail to show that mere boiling or filtering the water is not sufficient to prevent or cure the disease so *long as the possible avenues of infection from the soil are* not excluded. These experiments were conducted in 1904 and 1905. I assumed that if water were the only source of the disease, boiling and filtering ought to place sufferers in as favourable a position for cure as removal from the district, inasmuch as boiling is definitely known to render the water innocuous. Consequently, I selected a number of goitrous and non-goitrous individuals, to whom boiled and filtered water was administered for a period of two months. A second batch of goitrous and non-goitrous individuals was selected as controls, and these were allowed to drink the untreated water of the district. No restrictions were placed upon the men whose habits of life exposed them to continued infection from the soil. This experiment was carried out in one of the most goitrous villages in Chitral; and I am satisfied that the men drank only the boiled and filtered water provided for their use. It was repeated in Gilgit. I found as a result that neither boiling nor filtering the water sufficed to protect from the disease, nor did pre-existing goitres cease to increase in size.

The cumulative evidence of these experiments, together with the other facts and observations which have been dealt with in this section, affords, to my mind, conclusive proof of the proposition which I now lay down, that *soil is also a vehicle of the contagium vivum of goitre*.

Briefly, to recapitulate, we have now decided that the toxic agent of goitre is a *contagium vivum* conveyed by certain waters and contained in certain soils. I propose next to examine the peculiarities of the soil which favour its prevalence.

We have already remarked that limestone and lime-bearing rocks are those most commonly associated with the disease. Now these rocks are among the most porous as well as the most widely distributed of all geological formations. If, therefore, my deductions as to the nature of the disease are correct, these widespread and porous rocks would naturally provide its most normal habitat. The suitability of the soil does not depend upon its chemical composition, but rather upon its organic constituents. Kocher has drawn attention to the fact that in the neighbourhood of Bern, where goitre occurs, there is usually an abundance of organic matter in the rocks. The opinion of E. Bircher, expressed in 1908, that the nutrient materials necessary for the life of the excitant of goitre are derived from the remains of the extinct flora and fauna of marine deposits, though it points in the same direction, is one that is based on the slenderest of grounds. I believe that the presence in the soil of animal or vegetable matter, whether its deposition be remote or recent, may convert any soil, no matter what its geological origin, into a suitable habitat for the *contagium vivum* of the disease. A manure heap or a cesspit, for example, is much more likely to afford the necessary nutriment than the remains of the extinct flora and fauna, and is, indeed, a common source of such nutriment.

I am confirmed in this view by studies I have made of the topography of a large number of goitrous villages in Gilgit and Chitral, where I have observed that the presence or absence of goitre in a given village is largely a matter of the ease or difficulty with which the drinking water can become polluted.

I do not suggest for a moment that pollution *per se* is the essential cause of goitre, but I do suggest that pollution provides the nutrient material which admits of the life of the *contagium vivum* of the malady, not only in the soil, but in the water associated with it. On the other hand, a pure water is in itself antagonistic to the life of the living excitant, for we know that the addition of such a water to a goitre-producing one diminishes proportionally its harmful properties, while waters of known purity are frequently used as curative agents by sufferers from goitre.

It may be argued that if my contentions are correct all polluted waters should be a source of goitre. But this is no more a necessary sequence than that all polluted waters should cause typhoid fever. Indeed, the analogy between the spread of goitre and of typhoid fever is not inapt, so far as water as a vehicle for both these maladies is concerned. For the conditions which favour the life of the typhoid bacillus in water will favour also the life of the *contagium vivum* of goitre, and those precautions which have resulted in a great decrease of water-borne diseases, such as typhoid fever, have resulted also in a decrease of goitre. One not infrequently meets with reports in which enteric fever and goitre are bracketed together as having diminished in prevalence as a consequence of adequate protection of water-supplies. But just as a polluted water will not cause typhoid fever unless it contains the bacillus typhosus, so a polluted water will not cause goitre unless it contains the living excitant to which this disease is due. And as typhoid fever can be spread by agencies other than water—agencies which even two or three years ago were wholly unsuspected—so *we must recognise the probability of other sources of infection in goitre and not seek to explain every case by a slavish adherence to the "water theory" only.*

How any Water becomes Goitrigenous.

It is now easy to provide an explanation of the fact that a water which does not cause goitre in one place may become goitre-producing, or that a goitre-producing water may lose wholly or partially its noxious property. Since water picks up the causal agent of the disease from the soil it will pick it up only from those soils which contain it. A water which is organically pure may pass over such a soil and become goitrigenous as a result. The beneficial influence of adequate protection of water from the soil is exemplified by those many instances in which the simple canalisation of the supposed goitre-producing water has been followed by the disappearance of the endemic.

A water which has become goitrigenous may lose this property as a result of dilution with a purer water (examples of which I have brought to your notice) or by nature's usual methods of purifying water—the action of air and sunlight and by subsidence. The importance of the purifying action of subsidence and the rapidity with which it renders a water comparatively harmless are well illustrated by the case of the artificially bred trout. The water in the tanks was goitre-producing, but not the water which flowed into the first or escaped from the last tank.

A water may be conveyed in pipes for long distances and produce the disease among the consumers at a distance, provided it is goitre-producing at its source. Flowing rapidly through pipes, it is not subjected to these purifying influences to the same extent. Thus the water-supplies of towns which are derived from goitrous districts may give rise to the disease in the towns so supplied.

What, then, are the ideal conditions for the development of goitre? They are to be found in a country district with an agricultural population living on a porous soil, which soil contains much organic matter and by virtue of its porosity or slope admits of the ready passage of organic matter into the unprotected streams and wells that are the water-supply of the people. It is in mountainous countries where limestone rocks abound that these conditions are most frequently found in combination. Consequently, goitre is pre-eminently a disease of the hills, and its relationship to the soil is clear.

THE TREATMENT OF MENINGITIS OF OTITIC ORIGIN.[1]

By WILLIAM MILLIGAN, M.D.,

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Of the various intracranial complications consecutive to disease of the ear there is no one which is at times more difficult to diagnose and up to the present more disappointing in its treatment than meningitis. Despite all that has been written, there is still considerable diversity of opinion as to what actually constitutes the condition, and perhaps even greater want of unanimity as to the exact relationship between lepto-meningitis serosa, so-called, and lepto-meningitis purulenta. While many observers look upon the former as the forerunner of the latter, others consider the two diseases as distinct entities, while there are still others who deny the existence of any such disease as serous meningitis (Körner, Luc).

That a type of otitic meningeal inflammation exists to which the name meningitis serosa may be fairly applied I have personally no doubt, and that it is the forerunner of all cases of purulent meningitis is a point I hope to make in the following argument. Clinically its presence is indicated by such symptoms as headache, vomiting, stiffness of the muscles of the neck, and increase of arterial tension. Upon tapping the lumbar theca the cerebro-spinal fluid spurts out under pressure. This is as a rule clear, although it may be slightly turbid, and it has a specific gravity of 1005–1008 and an alkaline reaction. It may contain a few lymphocytes and polymorphonuclear leucocytes. In the midst of such conflicting ideas it is unusually difficult to extract light from darkness, and I shall, I trust, be pardoned if in the following remarks I may appear to be didactic and to draw too much from my own, and therefore necessarily limited, experience. The subject is one, however, which has interested me very considerably, and with the surgical treatment of which I have had some little practical experience.

Considered from a pathological standpoint it is undoubtedly convenient to divide meningitis into such subdivisions as serous, plastic, fibrinous, and purulent; but from the therapeutic point of view these subdivisions are arbitrary and are merely so many phases in the evolution of a disease—a progressive disease—the outcome of bacterial invasion, whose invariable termination unless nipped in the bud is in the death of the patient. I would urge the importance of this view, and of recognising that there will always be inherent differences in the clinical landscape due to the variety and toxicity of the causal organism or organisms and the cell resistance of the individual. That the disease *is not necessarily fatal, provided that an early diagnosis is* made and prompt treatment instituted, is evident from the published records of carefully observed and authentic cases. The old adage that delay is dangerous is nowhere more applicable than in the treatment of otitic meningitis. Put briefly, successful treatment depends upon early diagnosis and early drainage. Special knowledge is required in order to make an early diagnosis, and courage to operate in the absence of the full *ensemble* of text-book symptoms.

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[1] A paper read before the Otological Section of the Royal Society of Medicine on Jan. 17th, 1913.

What actually determines the onset of an attack of meningitis remains as yet undetermined. Why in meningitis is there an increase, and often a very rapid increase, in the amount of cerebro-spinal fluid? Why does not this increased exudate pass into the circulation, there to be dealt with? These and other such problems demand our most careful consideration. The mortality from purulent otitic meningitis is still so alarmingly high that any suggestions as to its treatment will be welcomed by all who have the progress of aural surgery at heart.

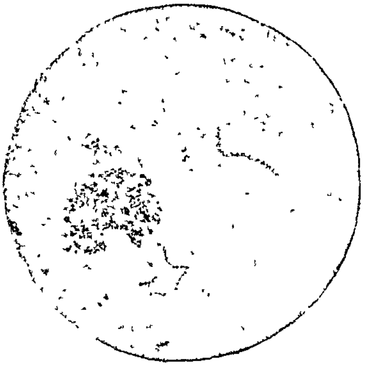
For practical purposes meningitis may be divided into two main types, (1) localised and (2) diffuse, and into subdivisions according as it attacks the external surface of the dura or the intradural spaces.

The treatment of that localised form known as extradural abscess is so well understood that I do not propose to discuss it beyond remarking that in my experience it is a more common complication of acute than of chronic otitis media, and more frequently found in the posterior than in the middle fossa, and also that I have frequently encountered such extradural collections of pus when their existence was quite unsuspected. It is quite a different matter, however, when ulceration of the dura has taken place and infective organisms have reached the intradural spaces. It is true that localised collections of pus are found in the intradural space, but the tendency here is towards generalised suppuration, as the defences thrown out by nature are rarely strong enough to resist repeated bacterial attacks. Such localised intradural collections of pus are rarely diagnosed, but are *occasionally found in the course of exploratory operations.*

Purulent lepto-meningitis, by which I mean an involvement of the meshes of the pia-arachnoid membrane, is by far the most formidable of the various intracranial complications secondary to purulent otitis media, and is frequently encountered with brain abscess or sinus phlebitis. For a time the infective process remains localised to the neighbourhood of the original focus of septic disease, but tends to become diffuse and generalised. The fact, however, that it remains for a time at any rate localised deserves to be more appreciated, for it is at this stage that operative interference is most likely to prove successful. Exacerbations of temperature denote to my mind invasion *of fresh areas of tissue, and, therefore, of an advance of* the disease, and are consequently important signals. It is useless to await the advent of all the classical signs and symptoms so ably portrayed in the majority of text-books. By the time they are in evidence the patient is, as a rule, [illegible] events, and an analysis of the cerebro-spinal fluid—the keystone to the situation—materially assist in making an early diagnosis and in instituting a rational line of treatment.

Under normal circumstances the mechanism controlling *the secretion of cerebro-spinal fluid and its ultimate passage* into the venous system is so delicately poised as to ensure an equable pressure. Let this mechanism be disturbed ever so slightly by factors which tend either to cause an increased exudation or to prevent the passage of fluid through the Pacchionian bodies and we have at once certain changes induced, changes which are capable of being accurately registered by modern chemical tests. Under normal circumstances the cerebro-spinal fluid is under slight pressure—20–30 mm. of mercury—has an alkaline reaction and a specific gravity of from 1005 to 1008. It may be secreted in great amount as the result of some peripheral focus of irritation, with as a consequence the various *signs and symptoms of increased intracranial tension; but so long as it* is able to deal with and to annihilate any bacterial attack it remains alkaline and more or less clear. Increased turbidity, however, does not mean that it has become septic, but that there has been a marked leucocytosis—in other *words, a supreme effort to ward off invasion. Diminishing* alkalinity denotes to my mind progressive bacterial invasion, while an acid reaction indicates that definite purulency has become established. My opinion is that all cases of purulent meningitis are preceded by a stage of serous meningitis, when a desperate fight is made by the meninges and cerebro-spinal fluid to resist bacterial invasion. To attain victory cerebro-spinal fluid has to be secreted in such quantity that the patient may become almost comatose from increased intracranial tension. If, however, operative interference be undertaken at this stage and the focus of infection removed with, at the same time, a fair amount of cerebro-spinal fluid, recovery not uncommonly follows. That the fight may be a long and desperate one is evidenced by the case of a female, aged 36, who for five weeks struggled against bacterial invasion of her cerebro-spinal fluid, and finally succumbed to a streptococcal infection. At the time of her admission to hospital she was suffering from suppurative labyrinthitis and symptoms of increased intracranial tension. Examination of the cerebro-spinal fluid, which was turbid, showed a marked leucocytosis, but no bacteria were found either in films or cultures. The fluid was under high tension, contained an increased amount of albumin, and reduced Fehling's solution normally. A complete labyrinthectomy was performed and a small extradural abscess at the apex of the pars petrosa opened. Later, on account of the persistence of increased intracranial tension, translabyrinthine drainage was instituted. The cerebro-spinal fluid which was examined from time to time remained turbid and alkaline until two days before the patient's death, when it suddenly became purulent and was found to swarm with streptococci and staphylococci. (Fig. 1.

FIG. 1.

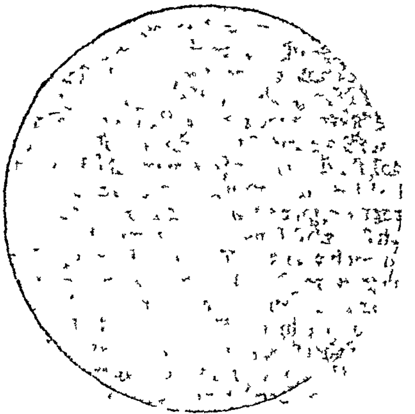


Suppurative labyrinthitis, suppurative meningitis. Film shows streptococci and disintegrated cellular elements.

Transition from the serous to the purulent type of cerebro-spinal fluid is not necessarily, however, indicated by the presence of bacteria. It may and does take place before any bacteria are discovered in films or cultures, as what we have *to deal with is the inter-reaction* between the toxic by-products of bacterial life and the living tissues. It is consequently to the chemistry of living tissues such as the cerebro-spinal fluid that we have to look to for the earliest indications of pyogenic invasion. Careful analysis will reveal delicate pathologi [illegible] anterior to that at which [illegible] s manifest themselves. [illegible] terial life is such as to destroy, or partially destroy, the existing carbohydrates or proteins in the cerebro-spinal fluid. It is now admitted that in normal cerebro-spinal fluid there is a carbohydrate—a glucose—which has the power of reducing the copper in Fehling's solution. In the presence, however, of bacterial infection of the cerebro-spinal fluid the existing carbohydrates become rapidly used up, with the result that in purulent meningitis there is an absence of this copper reduction. Hence we have at or [illegible] d apparently a certain test (Kopetzky)[2] of determining when and whether a serous meningitis is becoming purulent or not. In addition [illegible] creased, more especially the [illegible] g normal fluid a faint haze [illegible] is noted. In purulent [illegible] at times to as much as 0·1 per cent.

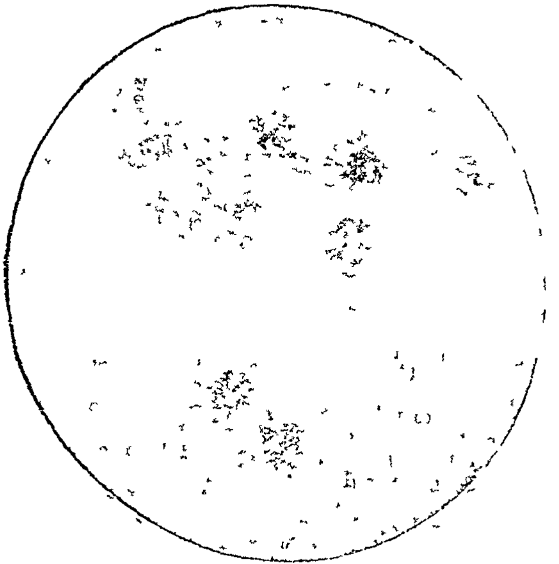
A progressive and at the same time diminishing alkalinity of the cerebro-spinal fluid, or a definite acidity, provides another useful bedside test of what is taking place. Several observers—among others Araki[3] and Zillehsen—have shown that in the presence of a lack of oxygenation there is a production of lactic acid in the living tissue. Where metabolism is upset as the result of some inflammatory, and more especially septic process—where, in other words, production is in excess of elimination—a varying amount of acidosis is induced, and it is to this artificial acidosis that the acid reaction of the cerebro-spinal fluid is due. So long as the cerebro spinal fluid remains alkaline, even though turbid, there is reason to expect a good result from operative interference, but should it become excessively turbid and acid the prognosis is grave, as then we know that the cell resistance of the individual has been overcome, and that bacteria and their toxins have gained the upper hand.

FIG. 2



Sarcoma of [illegible] Film shows [illegible]

FIG. 3



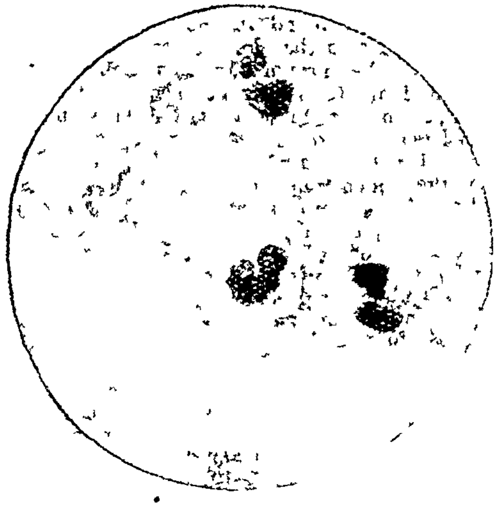
Temporo sphenoidal abscess, suppurative meningitis. Film shows leucocytosis.

In the early stages of meningitis the cellular elements found in the cerebro spinal fluid are very much the same as those found in the normal fluid. Occasionally a few lymphocytes in various stages of disintegration and a few polymorphonuclears are to be seen. Later on, when the fluid has become definitely purulent, there is an enormous increase in the number of leucocytes, chiefly [illegible] and a moderate increase in the number [illegible]

Bacteria are not found in films or in cultures in the early stages of the disease. As the disease progresses they are, as a rule, easily detected, either intra- or extra-cellular. The commonest varieties found are streptococcus, staphylococcus, a Gram-staining diplococcus, and Friedlander's bacillus. (Figs. 2, 3, and 4.)

Coincident with these delicate [illegible] fluid certain clinical signs and sy[illegible] make their appearance. Thus the gradual increase of intracranial pressure from excessive and protective secretion of cerebro-spinal fluid is accompanied by a simultaneous increase of general blood pressure and progressive tendency to cerebral anæmia. Owing to the brain substance itself being incompressible the pressure is exerted upon its vascular supply, with the result that nutrition is gradually cut off and a condition of malnutrition started. To this progressive increase of intracranial tension too much importance cannot be attached. It is in many cases the determining factor in the fatal issue, the cerebral anæmia which it induces paralysing the function of one or other of the sensitive vital nerve-centres. It is at this stage, the stage of active resistance by the cerebro-spinal fluid to the invasion of bacteria, when the fluid, although possibly turbid, is still alkaline and capable of reducing the copper in Fehling's solution, that lumbar puncture as a therapeutic measure is so advantageous. The withdrawal of a quantity of fluid, the amount varying with the pressure under which it escapes through the trocar, by relieving the mechanical symptoms due to increased pressure, tends to ward off profound cerebral anæmia and so to give time for the institution of more definite remedial measures.

FIG. 4.



Suppurative labyrinthitis, suppurative meningitis. Film shows leucocytosis, no bacteria.

Another indication of commencing meningitis is found in the presence of an œdema of the optic disc. The sheath of the optic nerve being a continuation forward of the membranes of the brain and containing cerebro-spinal fluid, anything which tends to increase the amount of cerebro-spinal fluid, and consequently intracranial pressure, will at the same time increase the pressure around the nerve, an increase reflected by a certain fluffiness of the margins of the disc.

I have also found in a few cases a lowering of the upper tone limit due to what I take to be similar mechanical causes. Owing to the fact, however, that the labyrinth upon the affected side is so frequently implicated in the primary septic process the test has in such cases to be applied to the labyrinth of the opposite ear.

The various chemical tests and the signs and symptoms just detailed are evidence of a *primâ facie* case of incipient meningitis and afford sufficient evidence to convict and to banish the invading party. To be effective, punishment should be drastic and rapidly carried out.

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[2] Transactions of the American Laryngological and Otological Society, May, 1912.

[3] Zeitschrift für Physiologische Chemie, xv., 1891.

In the early stages of meningitis, when the cerebro-spinal fluid is under high tension, clear or faintly opalescent, alkaline in reaction, and on boiling capable of reducing the carbohydrates present, repeated or continuous drainage through the lumbar theca, in addition to the removal of the primary focus of infection, by so diminishing intracranial tension and consequent cerebral pressure may bring about a complete cure. Ventricular drainage, although it may find a place in the treatment of non-pyogenic meningitis, entails the risk of infecting a previously non-infected ventricle as well as the cerebral substance through which the knife or needle has to pass. Lumbar puncture is to my mind, however, much m[illegible] peutic measure, and although [illegible] bringing about a cure is not [illegible] tinuous lumbar drainage, which *a priori* might have been expected to be efficient, fails after a time, because as fluid is continuously withdrawn the brain stem sinks down into the foramen magnum, with the result that it is prevented flowing from the distended ventricles through the foramen of Majendie and so into the spinal theca. A more effective and more rapid method of drainage is necessary, such as is obtained by translabyrinthine drainage or by one or other form of decompressive operation.

The internal administration of urotropine is said to have a beneficial effect and to assist in keeping the cerebro-spinal fluid aseptic. It[illegible] and the fact th[illegible] after its admini[illegible] mouth, have given rise to the idea that it might possess a certain antiseptic value, in addition to which Barton[4] and Brown[5] maintain that it is also found in the secretion from the infected ear.

When in cases of serous meningitis the labyrinth is the primary focus of infection, its complete removal with, in addition, the establishment of translabyrinthine drainage as recommended by West and Scott,[6] may prove efficient. In preference, however, to translabyrinthine drainage, I am in favour of a decompression operation in the posterior fossa at some distance from the original focus of labyrinthine suppuration on account of the risks of infection of the cerebro-spinal fluid unless asepsis be maintained, which under such circumstances is extremely difficult, if not impossible.

Opinions differ very much as to the actual value of serum-therapy and vaccine treatment in cases of purulent meningitis. While not denying that the administration of an autogenous vaccine may help, my experience has been to regard it merely as an adjuvant and to rely upon the relief of intracranial pressure as afforded by one or other form of decompressive operation and the removal of the primary focus of infection.

To be successful, any treatment of otitic purulent meningitis presupposes elimination of the primary focus of infection, whether it be a middle or an internal ear suppuration, or, as is so frequent, of the two combined. It is only of late years that purulent internal ear disease has received anything like adequate attention. In my opinion the internal ear is not only by far the most frequent avenue of infection to the meninges, but is also the most dangerous because it leads to direct infection of the posterior fossa. In actual practice cases of what one might name [illegible] nearly as fatal as cases of [illegible] n the former the resulting [illegible] be localised, whereas in the [illegible] d diffusion, while from the [illegible] interference is considerably more difficult. The fact that in the posterior fossa there is a larger amount of cerebro spinal fluid to be infected than in the middle fossa adds to the danger of infection in this region. When therefore infection is by way of the internal ear, as can usually be established by the employment of the caloric or other labyrinthine tests, a complete labyrinthectomy, in addition to a complete post-aural operation, should be performed. Having eliminated the primary focus of infection any pathological tract leading into the interior of the cranium should be followed, and if a localised collection of pus be found, free drainage afforded by removal of as much of the surrounding bone as is deemed necessary. Assuming, however, that there is no evidence of any localised collection of pus but that we have to deal with a spreading meningitis the difficulties of treatment are enormously increased. The objects to be borne in mind after removal of the primary focus of infection are (1) the relief of intracranial pressure; (2) the establishment and maintenance of free drainage from the meninges; and (3) the overcoming of the existing toxæmia.

In undoubted cases of purulent meningitis lumbar [illegible] ian as a means of diagnosis. [illegible] operation is called for, the [illegible] o provide by a sufficiently free [illegible] re enough to relieve efficiently the [illegible] of [illegible] bee[illegible] are[illegible] practically to cork it up. Some operators content themselves with the making of such a window and with the relief of pressure thus obtained No doubt, in certain cases of i[illegible] this is sufficient, but i[illegible] the fatal issue for a f[illegible]

[illegible] he dura may be dealt with in several ways: (1) by excising narrow strips in parallel rows; (2) by raising as large a flap as the bone wound permits of; (3) by removing entirely the dura corresponding to the bone wound

To Charles Ballance[7] we owe the suggestion of attacking meningitis by the occipital route In 1891 he performed the now classical operation of draining the posterior subarachnoid space after trephining the occipital bone upon both sides of the middle line close to the foramen magnum.

In 1893 Alfred Parkin[8] proposed drainage of the cisterna magna, while in the same year Ord and Waterhouse[9] drained the posterior fossa after removal of a portion of the occipital bone and incision of the underlying membranes.

Since that time isolated cases have been recorded by various observers, some successful, many, however, unsuccessful from the fac[illegible] skilfully planned and exe[illegible] a stage, when in fact the [illegible] excessive intracranial pressure and progressive toxæmia.

Whether decompression be performed over the temporo-sphenoidal or cerebellar area great difficulty is encountered in dealing with the brain substance itself. The moment the dura has been incised the cerebral or cerebellar cortex, as the case may be, is thrust into the wound by the *vis a tergo*, and tends not only to cork up the opening made and so to prevent the escape of infected cerebro-spinal fluid, but also to [illegible] bone wound. [illegible] consequently [illegible] ain hernia is also encouraged, partly from the *vis a tergo* and partly from the mechanical difficulties of maintaining free drainage. To obviate this tendency to brain herniation Haynes,[10] of New York, has suggested drainage o[illegible] regards this situation as the *one logical place* where removal of infected cerebro-spinal fluid should be practised. The [illegible]

⅞ in. trephine is applied in the middle line about one inch above the margin of the foramen magnum and a disc of bone removed. The dura is then separated from the bone and two grooves made through the bone into the foramen magnum. When this triangular piece of bone has been removed the dura presents under pressure A small incision is made through the bulging dura and arachnoid with the immediate escape of cerebro spinal fluid. When a quantity of fluid has drained away the incision is enlarged and an inspection made of the posterior poles of the cerebellum, the notch between them, and the posterior surface of the medulla. A drain is then inserted into the cisterna magna and suitable dressings applied. So far I have only performed Haynes's operation twice, and in neither case did the patient survive. Both were advanced cases of purulent streptococcal meningitis with high arterial tension and pus-laden cerebro-spinal fluid; in both cases I believe the operation was undertaken too late. The procedure, however, appeals to me, and at some future date I hope to have success with a case undertaken at a much earlier stage of the disease. The position of the patient upon the operating table rather interferes with the administration of a general anæsthetic; possibly spinal anæsthesia might prove sufficient, but of this I have had so far no experience.

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[4] Journal of the American Medical Association, March 5th, 1910.

[5] Ibid, April 16th, 1910

[6] The Operations of Aural Surgery, 1909

[7] Brit. Med Jour, January, 1897.

[8] THE LANCET, July 1st, 1893 p 21

[9] THE LANCET, March 10th, 1894, p 597.

[10] Transactions of the American Laryngological and Otological Society, May, 1912.

My records show 37 cases of meningitis serosa, so-called, with 29 recoveries and 8 fatal cases. In these 8 cases the cerebro-spinal fluid became definitely purulent, and although one or other form of decompression operation was performed it was unsuccessful.

Of cases diagnosed at the time of admission to hospital or to the surgical home to be suffering from purulent meningitis and submitted to operation I have had 14. In 4 of these cases it probably would have been wiser to attempt no operation; at any rate, all died. Of the remaining 10, where there was at least a sporting chance of recovery, 6 died and 4, or 40 per cent., recovered. This certainly is nothing to boast of, but it is at least a step in the right direction.

In conclusion, I would urge the necessity of an early diagnosis, employing for the purpose such tests as I have detailed, followed by immediate operative interference should such tests prove positive. Although the results of surgical intervention as yet obtained are far from satisfactory, I believe the day is coming when with modern methods of diagnosis and technique at our disposal the high mortality of the past will shade into insignificance beside the brilliant records of the future. It is for a society such as this to lead in the van of progress, not to be deterred by failure, but to press on to attain that great reward—the knowledge that our efforts have been crowned with success, and that an otherwise doomed life has been saved as the result of scientific investigation and surgical skill.

I am indebted to my house surgeon, Dr. Frank Wrigley, for the preparation of the films.

Manchester.

ON A CASE OF ADENOMYOMA UTERI.

BY J. B. HELLIER, M.D. LOND.,
HONORARY OBSTETRIC PHYSICIAN TO THE LEEDS GENERAL INFIRMARY, AND PROFESSOR OF OBSTETRICS IN THE UNIVERSITY OF LEEDS;

AND

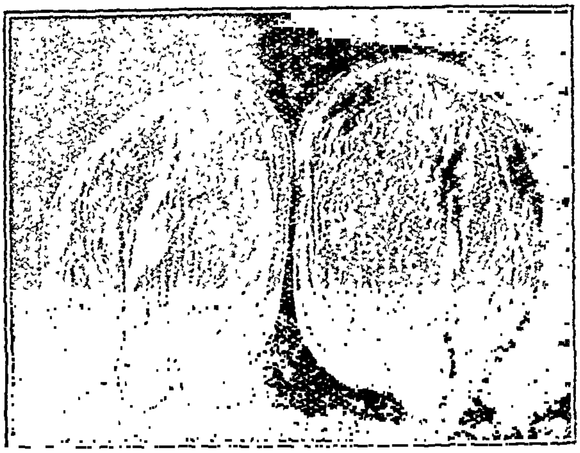
M. J. STEWART, M.B., CH.B. GLASG., M.R.C.P. LOND.,
CLINICAL PATHOLOGIST TO THE INFIRMARY.

THE specimen figured and described here was removed from a patient, aged 44, who was admitted for retention of urine. She was married at 23, but lost her husband two years later, and was never pregnant. She had always enjoyed good health. Her periods have always been regular, lasting four days, never excessive, though accompanied by some pain, but there has been no increase lately either in the frequency, amount, or painfulness of this function. Her first and only symptom was noticed on Oct. 13th, 1912, when she found that she could not pass urine. On admission a uterine tumour was found occupying the body of the uterus, which was about the size of a four months pregnancy. Supravaginal abdominal hysterectomy was performed on Oct. 19th. The operation was a little difficult because pelvic adhesions prevented the raising of the tumour, and because the tumour filled the pelvis it was far from easy to reach the attachments. Recovery was uncomplicated.

On section the tumour was found to be a typical adenomyoma. The uterine wall is uniformly thickened, and does not show the encapsuled growth or growths so characteristic of ordinary myomata. Hence it would not have been possible to treat this case by myomectomy. The uterine canal, as Fig. 1 shows, runs straight through the tumour without being deflected by any bulging growth; only at one point there is a small fibrous nodule well differentiated. The endometrium is somewhat thickened, and the naked eye perceives many larger or smaller cystic spaces scattered over the surface of the section.

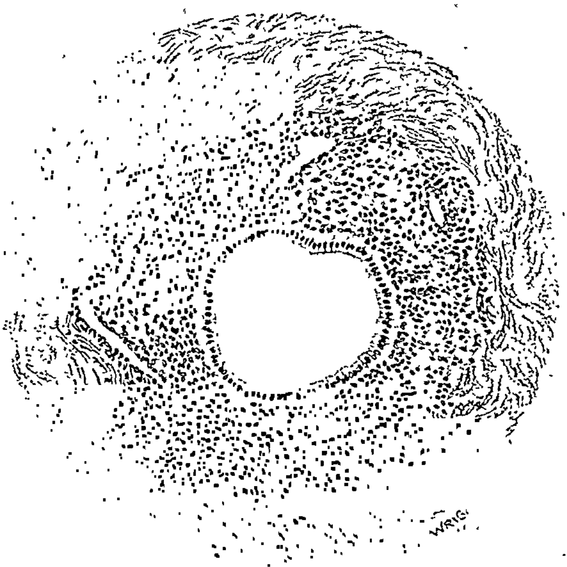
Report on microscopic examination by Dr. Stewart.—Diffusely scattered throughout the myometrium are numerous small cystic spaces of various shapes and sizes. These, on microscopic examination, are found to be lined by a broad zone of loose spindle-celled tissue closely resembling endometrial stroma, but innocent of glands. This is lined internally by a *single* layer of cylindrical and columnar epithelium, which in part appears to be ciliated. In many of the cysts only small tags of epithelium remain. Peripherally there is a fairly sharp line of demarcation between the endometrial lining of the cysts and the myometrium. (Figs. 2 and 3.)

FIG. 1.



Adenomyoma diffusum cysticum, from a photograph by Professor Hellier. Section of the tumour (macroscopic). Shows the uterine canal running straight through the tumour, diffuse myomatous growth of the uterine wall, especially of the posterior wall, and a small fibrous nodule about the centre; also several of the larger cystic spaces are very obvious. The tumour measures 4¾ inches by 3 inches.

FIG. 2.



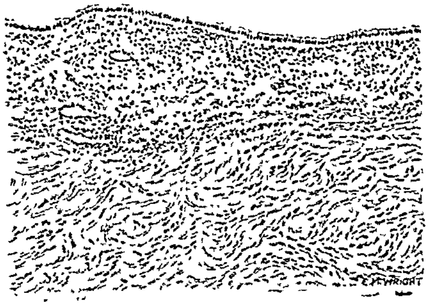
Section through one of the smaller cystic spaces. Shows a single lumen with a *lining* of columnar cells and surrounded by an endometrial-*like* stroma. The spaces in the latter are vascular and not glandular. Peripherally the unstriped muscle of the uterus is seen.

The condition appears to be one of adenomyoma diffusum cysticum, and the marked cystic distension of the endometrial down-growths (accepting Cullen's views on this point) quite accounts for the absence of actual gland-like acini.

Remarks by Professor Hellier.—Adenomyomata have been recognised as a group separate from ordinary myomata for several years. The first important publication on the subject was by Profes[illegible] in 1896, but we are indebted to a [illegible] by Dr. T. S. Cullen, of the Johns [illegible] for the best recent work on the [illegible] held that the gland structures are derived from vestigial remains of the Wolffian ducts, but Cullen has shown that the gland spaces can be traced to the uterine cavity, and that they are, in fact, offsets from the main uterine canal and communicate with it. It has been shown that menstrual fluid is excreted in these subsidiary glandular spaces, and that in one case, at least, the decidua of pregnancy has been observed in the glandular spaces.

Hence we have a very interesting conception of the uterus in this and similar cases, if we regard the corpus uteri as more or less penetrated in all directions by small diverticula from the central cavity, with an endometrial lining which takes part in the menstrual function and shares in the physiological changes of pregnancy.

FIG. 3.



A portion of the margin of one of the larger cystic spaces showing similar appearances to those in Fig. 2 (Figs. 2 and 3 are from drawings by Miss E. Wright.)

Amongst the clinical features common in adenomyoma Cullen mentions pain at the periods and marked menstrual excess, but this case shows that such features are not invariable. It also illustrates the fact, well known to gynæcologists, that retention of urine is often an important symptom in myoma uteri, and should always be thought of when retention occurs apart from pregnancy or other obvious cause. It is also an important indication for operating for the myoma. Some traces of old peritonitis were found in the pelvis, and this seems common in adenomyoma.

It seems possible, in view of the endometrial diverticula found in these cases, that an ovum might become embedded in the uterine wall and so give rise to an ectopic interstitial pregnancy at a point distant from the interstitial part of the oviduct.

Leeds.

DONATIONS AND BEQUESTS.—The late Mrs. Annie Ethel Perrin left for charitable purposes £16,000 divided into 17 parts, of which the Swansea Hospital, the Royal Ear *Hospital, London, the Bristol Royal Infirmary*, the Bristol General Hospital, the Bristol Dispensary, the Bristol Eye Hospital, the Bristol Hospital for Women, and the Bristol Deaf and Dumb Institution will each receive one part.—By the will of the late Mr. G. S. Guy the testator left £500 each to the Malvern Hospital, the Wolverhampton Royal Orphanage, and the Wednesbury District Nurses' Institution or Nurses' Home.—Mr. Austen Chamberlain has received a sum of £2004 from Messrs. F. and A. Swanzy, Limited, being their collection on behalf of the fund which is being raised for the extension of the London School of Tropical Medicine.—The Grand Duke Michael has sent a cheque for 500 guineas to the Hampstead and North-West London Hospital for the purpose of purchasing a motor ambulance.

HYPERTROPHIC STENOSIS OF THE PYLORUS IN ADULTS.

By H. GILBERT BARLING, M.B. LOND.,
F.R.C.S. ENG.,
PROFESSOR OF SURGERY IN THE UNIVERSITY OF BIRMINGHAM;
SURGEON TO THE GENERAL HOSPITAL,
BIRMINGHAM.

I SUPPOSE that most surgeons who have had to deal with cases of hypertrophic pyloric stenosis in the infant have wondered what happens to the muscular overgrowth in the pyloric canal, whether the patients are submitted to operation or recover without. Does the hypertrophy eventually recede or does it remain permanent? May it become exaggerated later in life and produce symptoms, or may it originate in adults? The following cases seem worth recording as a small contribution toward furnishing an answer to these questions.

CASE 1.—In January, 1909, a male aged 27, was admitted under my care in the General Hospital, Birmingham, with symptoms typical of pyloric stenosis—periodic vomiting of large quantities of fluid, evidence of stasis, loss of weight, and severe constipation. The illness began three years before admission with indigestion, which the patient described as pain in his stomach almost as soon as he had taken his food, a feeling of fulness, and much flatulence. These conditions would come on in attacks lasting two or three weeks, and were relieved by medicine. After an attack he would be all right, perhaps for two or three months, and would then have another similar attack. The pain was felt below the left costal margin; it would last from half an hour to an hour, and would gradually go off. When these symptoms had existed two years the patient began to vomit after taking food; at first it was usually after his midday meal, and the vomiting came on almost immediately after the food was taken; the vomited matter appeared to be the food very little altered. After the act of vomiting the patient felt quite comfortable and well. The intervals between the attacks of vomiting gradually became shorter, until eventually the vomiting occurred after taking even fluids. Blood had never been noticed in the vomit or in the stools.

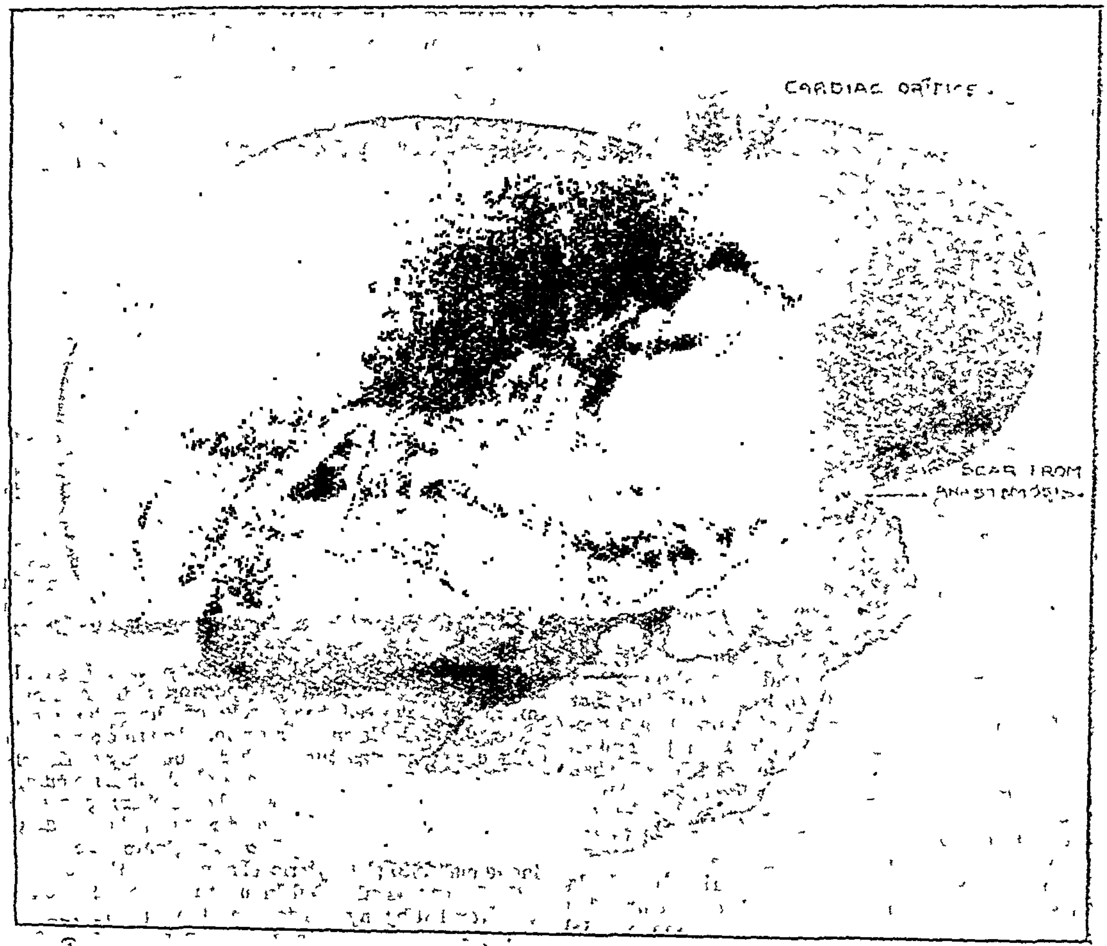
Operation.—The stomach was comparatively small, but its muscular coats were very hypertrophied. A firm, massive thickening involved the whole of the pyloric canal, and encroached a little on the antrum. The thickening felt like a solid muscular structure such as the body of the uterus; it was nearly three inches long and about an inch and a half thick; the peritoneum over the thickening was perfectly normal; the surface was smooth and without scar or nodulations. On attempting to invaginate the stomach or duodenum into the pyloric channel only the very tip of the little finger was admitted from either side. These conditions were verified by my assistant at the time of the operation, and we agreed that they could not be explained by any spasmodic contraction, nor did they suggest malignant growth or inflammatory formation, but rather an overgrowth of muscular or fibrous tissue. A posterior gastro-jejunostomy by the no-loop method was performed, and an easy recovery followed. I learn from Mr. E. H. Kenderdine, of Coventry, that the patient continues well and in full work—that is, nearly four years after the operation.

The conditions found suggested to me that the patient was suffer[illegible] to that which occur[illegible] recording the case, [illegible] examples of the same condition.

CASE 2.—Early in January, 1912, I was asked by my colleague, Sir Robert M. Simon, to see with him a girl, 17 [illegible] hospital, when she vomited after eating some fried fish; she was ill for a week, and then was able to return to work. A fortnight later the pain and vomiting after food returned and continued with intermissions until admission to hospital.

When admitted the pain came on from half an hour to an hour after food; the vomiting was frequent and was preceded by retching; blood had never been recognised in the vomited matter.

General state —The patient was thin and pallid; the cheeks were flushed; the left pupil was larger than the right; the mental state was dull, and she spent much time in sleeping The abdomen was scaphoid in shape and moved on respiration; tenderness on palpation was not elicited, and no tumour could be recognised; the bowels were very constipated A test meal showed the presence of unaltered currants and muscle fibre some six hours after the meal was given The vomited matter was generally very disagreeable in odour, but repeated examination failed to show the presence of blood. A bismuth meal administered for X ray examination was vomited almost immediately. Von Pirquet reaction was negative; the leucocyte count was 10,000 The temperature was irregular; sometimes it ran up to as high as 103°F.; the pulse was irregular and generally quick. The girl was evidently very ill, more so than one would generally expect to find in a case merely of simple stenosis of the pylorus, and both Sir Robert Simon and myself thought, from the character of the vomit and from the patient's general condition, that it was possible she was suffering from a stenosis in the small intestine rather than at the pylorus, and we were suspicious that the condition might be one of tubercular constriction from past ulceration of the bowel.



Sketch of stomach and duodenum, laid open to show hypertrophic stenosis of pylorus.

Operation (Jan. 15th) —The pyloric canal presented a [illegible] limited at both ends and resembling [illegible] stenosis of young infants. The [illegible] quite smooth and free from any indication of ulceration; there was no nodulation and no fixation on adjacent parts. The usual operation of posterior gastro-jejunostomy was performed. The operation was well borne, but on Jan. 17th a slight convergent strabismus was noticed, and the patient complained of diplopia On the 19th she had vertical nystagmus, and on the 24th complained of pain in the right side of the abdomen, and a little blood was noticed in the urine; the blood increased in amount the next day or two. On the 26th optic neuritis was observed, and on that day tubercle bacilli were found in the urine Vomiting did not occur for the first few days after the operation, but subsequently it happened at rare intervals. The patient died on Jan 31st apparently from tubercular meningitis. No complete necropsy was allowed, so the stomach only was examined

For the illustration I am indebted to my dresser, Mr. Oscar Parkes It shows the first part of the duodenum, the pyloric canal, and the adjacent part of the stomach laid open; the overgrowth of tissue in the pyloric canal and its abrupt limits are well seen. Careful examination of the exposed mucous membrane showed no trace of old or recent ulceration, and microscopic section revealed only an overgrowth of the circular muscular fibres. The thickening of the pyloric canal in the first case was much more marked than in the second, and allowing for the difference in size of the organs compared, it was an exaggeration of the infantile condition

When operation revealed the cause of the patients' symptoms the near relatives of each patient were carefully questioned as to the history during infancy, but no facts were obtained suggesting the presence of stenosis in the patients' lives at an earlier date than that recorded in the preceding notes.

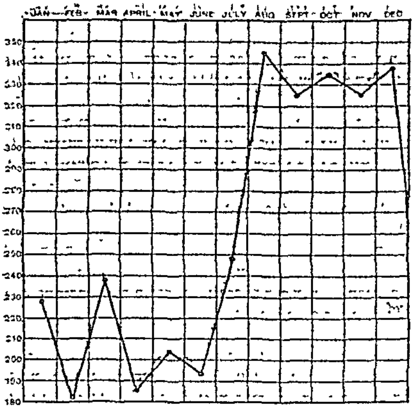
Birmingham.

MALARIA IN INDIA AND THE BIRTH- AND DEATH-RATE.

BY W. H. KENRICK, M.R.C.S. ENG., L.R.C.P. LOND.,
MAJOR, I.M.S.

DEALING first with the birth-rate, malaria in both its *epidemic and endemic forms has a very marked effect.* In the case of the epidemic form of the disease this is shown by a great reduction in the total number of births in the year following the epidemic. This reduction begins nine months after the commencement of the epidemic, and reaches its height exactly nine months after the epidemic attains its maximum. This is well shown in the monthly birth curve of the Punjab for the year 1909, following the severe epidemic of the previous year, [illegible] sudden fall spread [illegible] its *maximum in J*[illegible] alone; it is quite [illegible]

FIG. 1.

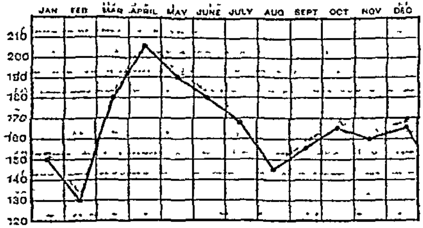


Birth curve of 34 healthy villages, with an average spleen rate of 4 per cent.

by famine, cholera, plague, &c., and enables the course of an epidemic in a province to be mapped out by a study of the birth statistics only.

Endemic malaria, on the other hand, causes no reduction in the yearly birth-rate of places in which it prevails, compared with the rate of neighbouring healthy areas. It has, however, a marked effect upon the monthly distribution of births. If the average monthly curve of a healthy area for a series of normal years is drawn, it is seen that the births are least in number during the early months of the year and greatest during the autumn months, the highest point of the curve generally being in October or November. The probable reason for this is that since the early part of the year is the most healthy, and at the same time the period of the harvest—in other words, a time when the physical and economic condition of the people is at [illegible] most favourable for [illegible] on the contrary, the [illegible] which fever is most [illegible] every inhabitant is chronically infected with the parasite, and frequent *exposure to the often severe cold of this period readily* induces relapses. Thus during the cold weather months there is an increase of malaria, and, as the results of *epidemics show, a period of increased fever prevalence is a* period of comparative sterility. The rise in the birth curve, which normally should occur in the autumn, is thus postponed for five or six months, and takes place during March, April, or May instead. This is well shown in the diagrams (Figs. 1 and 2), which give the birth curves of two groups of villages, in each of which the amount of malaria actually present was determined by measurement. The birth curves of several "thana" (police registration) areas, in a part of the Central Provinces of India well known [illegible] statistical administrative units, and the registered births for a consecutive series of years (1901–09) are taken. The healthy and malarious tracts alike are inhabited by the same *class of people, living under practically similar social,* economic, and climatic conditions. The only difference between them is in physiographical features, which in the [illegible]s, forests, rank grass, &c.) as [illegible] with intense malaria. The [illegible] of the two types of birth curves can only be attributed to the effects of this chronic disease.

FIG. 2.



Birth curve of 33 hyperendemic villages; with an average spleen-rate of 80 per cent.

With regard to the death-rate, it is known that malaria [illegible] which it is endemic; but [illegible] (in the tropics) are usually [illegible] and apathetic, and their vital statistics, so far as *causes* of death are concerned, unreliable, the proportion of the total mortality attributable to this disease cannot, as a rule, be ascertained. In certain cases, however, detailed measurements have been made to ascertain the malarial mortality. Rogers found that 25 per cent. of the total fever mortality in a highly malarious district of Bengal might be ascribed to malaria; and Ross estimates the true malarial death-rate of Mauritius to average about 20 per 1000 per annum. In parts of the Central Provinces of India endemic malaria is extremely prevalent, an average spleen rate of between 80 and 90 per cent., with a high [illegible] among the inhabitan[illegible] of such endemic areas during a period free from cholera, plague, and famine are closely compared with those of neighbouring healthy areas under similar conditions, and [illegible] villages (average spleen-rate 4 per cent., 727 children) compared with a group of 33 hyperendemic villages (average spleen-rate 80 per cent., 840 children):—

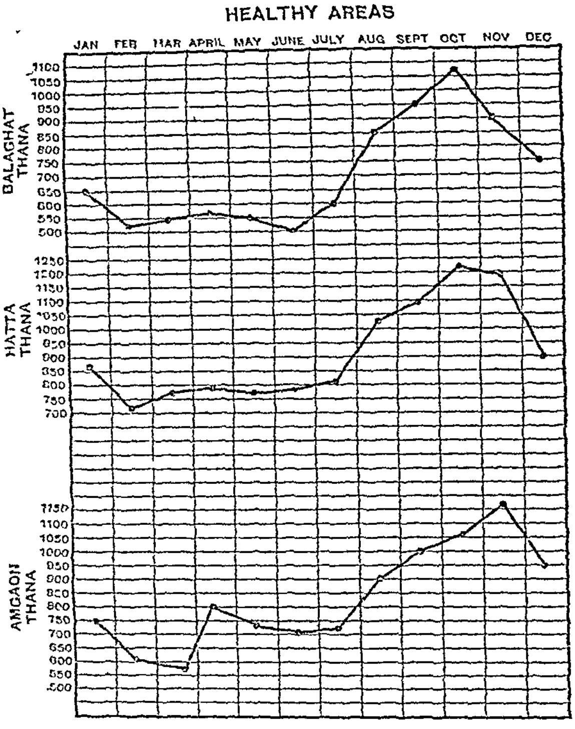
	Death-rate per 1000.		
	1908.	1909.	1910.
1. Group of healthy villages	24	22	33
2. Group of hyperendemic villages	38	32	44

The existence, therefore, of malaria of a hyperendemic nature in the one tract caused an average increase of 12 per 1000 in the general death-rate.

It is the custom for the village registration agency in India to return from 70 to 78 per cent. of all deaths occurring in hyperendemic areas as "due to fevers"; verification of 300 of these deaths showed that 50 per cent., or 38 per cent [illegible] ascribed to malaria. [illegible] as 35 per [illegible] per 1000, w[illegible] 1000—by which the death-rate of a malarious locality [illegible] that of a healthy one.

The mortality of malaria falls most heavily on the young, children aged from 2 to 8 years being the greatest sufferers (the earliest case of infection which came under my observation was an infant aged 4 months); and there is evidence to show that it rises *pari passu* with the endemic index.

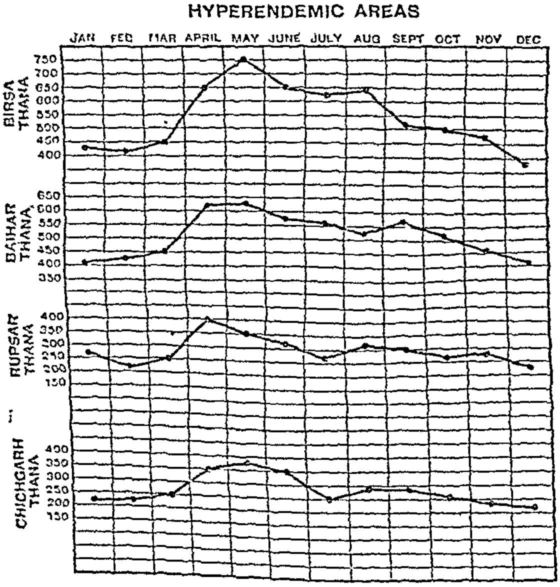
FIG. 3.



Birth curves of healthy registration areas in a district of the Central Provinces.

Further investigation into these questions is desirable. With reference, however, to the restricted area concerned in these observations, the following conclusions may be drawn: 1. Epidemic malaria causes a marked fall in the birth-rate of the following year, chiefly noticeable during the months of June and July. 2. *Endemic* malaria, while not influencing the annual birth-rate, has a marked effect upon the seasonal distribution of births. 3. The malarial mortality of hyperendemic areas amounts to at least 13 per 1000 per annum.

FIG. 4.



Birth curves of malarious registration areas in the same district shown in Fig. 3.

A PRELIMINARY COMMUNICATION

ON

THE PATHOGENICITY AND VIRULEN OF BACTERIA.[1]

BY F. H. THIELE, M.D. LOND., M.R.C.P. LOND.,
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AND

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(*From the Bacteriological Laboratory of University Coll Hospital Medical School, London.*)

As much of the work on which this paper is based has yet been published it is necessary briefly to review the w in order to bring out the argument clearly. First, then, must consider the mechanism of fever production.

Friedberger showed that in animals which have b sensitised with serum (for the demonstration of anaphyla a much smaller dose of the protein is necessary for the duction of temperature variations than is necessary unsensitised animals. He also showed that in the ea stages after sensitising an animal a further dose of a prot will produce a rise of temperature, but later on the *same* d will produce a fall of temperature. Finally, he showed t if anaphylotoxin be prepared *in vitro*, a small dose injec into an animal will produce a rise of temperature, a lar dose a fall. From these observations he concluded that th various effects were due to the formation of anaphyloto produced *in vivo* on the one hand and *in vitro* on the oth and that the various effects depended on the amo exhibited.

Vaughan and Wheeler have shown that repeated doses protein or bacteria produce temperature variations, type of variation depending on the dose and frequenc inoculation. They consider that protein and bacteria cont a preformed toxic molecule.

Hort and Penfold have shown that temperature variati occur in animals when these are inoculated with cert bacteria. They consider that the temperature variations due to a substance they designate pyrogen, which substa is supposed to be liberated from the medium on which bacteria are grown.

We have been able to show the following.

1. Given a sufficiency of ferment in an animal, vary quantities of protein or bacteria will produce, when inject the following conditions :—

(*a*) A sufficiently small dose = no temperature variation.
(*b*) A larger dose = a temperature rise.
(*c*) ,, ,, = a greater rise.
(*d*) ,, ,, = less temperature rise.
(*e*) ,, ,, = no temperature variation.
(*f*) ,, ,, = a temperature fall.
(*g*) ,, ,, = a greater fall followed by death.
(*h*) ,, ,, = acute death, so called anaphylax

If, however, there is insufficient ferment present to s with, acute anaphylaxis can never be produced, and so on

2. Proteolytic degradation bodies, so-called anaphylotox manufactured *in vitro* produce effects parallel to the ab according to the dose.

3. That by producing varying stages of anti-anaphyla (that is to say, the condition following the anaphyla shock in which recovery has taken place), the conditi following a further dose depend on the amount of ferm used up by the first dose. Friedberger came to similar c clusions from his work. For example, if all the fermen used up by the first dose the second dose produces no te perature variation. If most of the ferment is used up second dose produces a temperature rise. If little fermen used up the second dose produces a temperature fall.

4. By inoculating the tissues of animals sensitised protein or bacteria into a normal animal, that these passiv sensitised animals acquire the power of developing te perature variations after injection of the specific protein.

And we were able to show that if the amount of fermen i.e., the sensitised tissue injected—were kept constant, temperature manifestations varied inversely with the amount of the protein subsequently injected, and by keeping the protein constant and the ferment variable similar results were obtained. Also, if normal tissues of animals were injected into normal animals, these animals developed the power of giving temperature variations with smaller doses of any protein than normal animals, this power being due to an increase in the normal ferments, specific or non-specific.

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[1] A paper communicated to the Royal Society of Medicine Jan. 21st, 1913.

From these observations we have been able to deduce:—That temperature variations are due to the interaction of the substance injected and the ferments present normal or induced. That the substance which gives rise to the temperature variations is an early degradation product of proteolytic disintegration of the injected substance. That the rise and fall are both due to the same substance and not different stages of degradation of this substance, but to its rate of accumulation. The substance in large amounts produces a fall of temperature, in small amounts a rise; so that the results depend on the relative amounts of substance injected and ferment present. If, then, there is sufficient ferment present, any stage can be produced from a single dose, according to its size, from a temperature raising effect, through a temperature depressing, through so-called anaphylaxis to the acute Auer Lewis phenomenon or acute anaphylaxis.

The toxicity of bacteria not possessing an exotoxin was formerly considered to be wholly due to the liberation of an endotoxin. Friedberger considers that toxicity is due to the formation of anaphylotoxin from the endotoxin, but does not absolutely deny the possibility of the endotoxin being directly toxic. Now, the views held at present with regard to the endotoxin are that it is (1) a toxic substance secreted in the animal body; (2) a preformed toxic molecule which is liberated by breaking up of the bacterial cell (*a*) in the animal body by antibodies, (*b*) *in vitro* by alcoholic potash, (*c*) *in vitro* by watery potash, (*d*) *in vitro* by freezing and thawing or by freezing and grinding.

We have been able to show that the so-called endotoxin is really the toxic proteolytic degradation-bodies liberated from the bacterial protoplasm by the action of the tissue ferments, and that accumulation of this body in bacterial infection is the cause of the symptoms and death, and is the same for all bacteria, and that this is the same substance obtained by Friedberger *in vitro or from the peritoneal cavity, using the* peritoneal cavity as a test-tube.

We conceive that the toxicity of a bacterium depends upon [illegible] protoplasm easily, the toxic substance is liberated readily, and the symptoms depend on the amount of accumulated toxin at any given moment. On the other hand, if the bacterium is tough, for example, the tubercle bacillus with its fatty capsule, the ferments can only act on it very slowly, and consequently the rate of production of toxin is very much slower. Again, within limits, an increase in the ferment will increase the rate of liberation of toxic material from the bacterial protoplasm.

It is said that an animal dying from any form of bacterial infection is supposed to die from the specific poison—i.e., the endotoxin. Now we have been able to show that the blood of these animals contains an intensely toxic substance, which when inoculated into guinea-pigs intravenously in doses of from 5 c.c. to 10 c.c. produces acute death with the typical symptoms and post-mortem appearances of proteolytic degradation body poisoning. We have obtained this syndrome with the blood of rabbits dying from chicken cholera, coli, danysz, dysentery, and phlei, and the blood of guinea-pigs dying from staphylococcus, tubercle, proteus, and prodigiosus. We have also produced the same syndrome with the blood of animals which have died of toxæmia from the above-mentioned dead bacteria. The number of bacteria inoculated with the blood of these animals is extremely small, and is quite insufficient in itself to cause acute death of the type mentioned. In fact, we have shown that when bacteria are completely broken up by freezing and thawing or by grinding, so as to liberate the "endotoxin," death of this description only rarely occurs, and then with quantities of over 20 mgm. dry weight. We have succeeded in producing acute anaphylactic death with tubercle bacillary emulsion (B.E.), coli, and proteus. With all other organisms with large quantities intravenous injection causes delayed death (delayed anaphylaxis). The animal develops rigors, ruffling of the coat, fall of temperature below 94° F., paresis spreading from the posterior to the anterior extremities, and disordered respiration. On death the post-mortem changes are all the same—viz., congestion of the right side and veins, distended gall and urinary bladders, and a certain degree of lung distension. Now these symptoms and post-mortem appearances are identical with those produced by inoculation of egg albumin into egg sensitised guinea-pigs, in doses too small to cause acute death (or where the ferment is insufficient to cause acute death). Now we have noticed that guinea-pigs dying of any bacterial infection die with these same symptoms and post-mortem appearances. The results obtained by Arima with so-called typhoid toxins—i.e., the soluble and insoluble typhoid protoplasm—are identical with these. Vaughan and Wheeler have produced tissue changes in animals by the repeated inoculation of egg albumin which are exactly the same as those produced by bacterial infections.

Thus we see that the toxic substance liberated from bacteria in large quantities produces in normal animals symptoms of acute proteolytic degradation body poisoning, in smaller quantities great fall of temperature, paresis, rigors, &c., in smaller quantities still fever; and that the so-called endotoxins only give rise to those symptoms when the various ferments have been able to produce the necessary accumulation of degradation bodies to give rise to the symptoms. In animal infection the difference between the symptoms produced by the different bacteria depends on the distribution, rate of multiplication, and consequent liberation of the degradation bodies. For example, a characteristic clinical picture may be obtained with certain bacteria due to local cumulative effects. In certain structures *where the organism is normally present* in large quantities, and is continually there undergoing proteolytic degradation—for example, in the intestines—we always note in coli infections intense hyperæmia of the mucous membrane and hyperæmia of Peyer's patches in guinea-pigs.

A similar condition was noted by Schittenhelm in dogs, by injection of hydrolytic degradation products of bacilli coli. The acute toxic material of Vaughan and Wheeler, Schittenhelm, &c., are really early hydrolytic cleavage products and not unaltered bacterial protoplasm.

Friedberger, in his paper on anaphylatoxin fever, drew attention to the similarity between certain features in the syndrome of bacterial infection and those produced by anaphylatoxin.

To summarise. 1. Endotoxin as originally understood does not exist. The bacterium does not liberate a primarily toxic substance. 2. The bacterial protoplasm itself is not directly toxic. 3. The bacterial protoplasm becomes toxic on exposure to ferments. 4. The degree of toxicity depends on the accessibility of bacterial protoplasm and concentration of ferment. 5. As we shall show later, if the amount of ferment is very large, lysis occurs so rapidly that the bacterial protoplasm is broken down to non-toxic substances.

Now with regard to the ferment and its formation. Working on the early stages of the formation of a hæmolytic antibody in rabbits to human red cells, the development of the specific antibodies can be traced through the following stages from the panenzyme. Complement in its simplest form must be regarded as panenzyme, which will attack any form of protein, though slowly. In its earliest stage the specific ferment occurs in such a condition that when exposed to the specific antigen at 0° C. it combines with it, and it is found that the complement, which would otherwise activate sensitised homologous antigen, has been removed, but that the other complements are left free. This ferment is destroyed by heat at 56° C., and cannot be reactivated by the addition of fresh complement. The next stage is the development of a thermolabile amboceptor, which combines at 0° C. and does not fix complement in the cold and by itself will agglutinate. The final stage is the development of the thermostable amboceptor. In the normally occurring hæmolytic antibody (e.g., in rabbits to sheep's red cells) all three stages may be demonstrated to occur at the same time, and it seems that the younger the animal the less differentiated the ferment is. The antibodies to bacteria apparently go through the same stages, but it is only in certain cases that the whole process can be traced.

Thus we consider that the complement is an enzyme, and the amboceptor is a kinase or coënzyme which activates and adjuvants the former.

From the above work we thought that organisms were not pathogenic because they produce endotoxin, but were pathogenic to animals because the animals had ferments which were capable of acting on the bacteria so as to cause an accumulation of proteolytic degradation bodies, which would inhibit phagocytosis and allow the bacteria to multiply.

With regard to phagocytosis we shall shortly publish a paper with Dr. Stanley Warren in which are shown the following: 1. Carbon particles and bacteria to which the animal has no ferments act as innocuous substances and are phagocytosed by the polymorphonuclear neutrophiles, and these in turn by endothelial cells. 2. In an animal which is immune from the presence of a large quantity of ferment the bacteria are very rapidly broken down beyond the toxic stage, and so are innocuous, and the usual sequence of phagocytosis occurs. 3. In an animal in which the ferments are unable to completely break down the bacterial protoplasm quickly enough the toxic proteolytic degradation bodies are liberated, and these act aggressively, inhibiting phagocytosis. If these toxic bodies accumulate at a sufficient rate the animal dies and the endothelial cells do not appear in the exudate. If, however, the toxic bodies do not accumulate so rapidly, the polymorphonuclear neutrophile cells, after a considerable increase in numbers, are able in time to phagocytose the bacteria, and eventually the usual sequence, though delayed, occurs.

So we would say that an animal is immune to a bacterium (1) if the bacterium is unacted on by the ferments and so remains innocuous, (2) if it is so rapidly broken up by the ferments present that its proteolytic degradation bodies are quickly reduced to non-toxic ones, and so it again becomes innocuous. And an animal is susceptible to a bacterium if the ferments can split off from the bacterium toxic substances in such amount as to inhibit phagocytosis. Thus to a given bacterium an animal may have very little ferment action, and little toxic substance will be split off to act aggressively, so that phagocytosis will occur and the animal will be unaffected. If, however, the ferment activity is greater because there is more ferment, or because there is a specific ferment, or because the bacterium is more fragile, then toxic substances will be liberated in sufficient amount to act aggressively, so that phagocytosis will not occur, the bacteria will multiply, and septicæmia will ensue (or the ferment may destroy the bacterium, but may be present in insufficient amount to degrade the protoplasm sufficiently rapidly to render it non-toxic, so that these toxic substances liberated will kill the animal). Further, if the ferment activity is still greater the bacteria will be rapidly degraded beyond the toxic stages, aggressive substances will not accumulate, phagocytosis will occur, and the animal will recover.

First, then, we will take organisms to which the ferment activity normally is very low, such, for example, as the bacillus mycoides (a soil organism superficially resembling the anthrax bacillus, but naturally incapable of growth at the body temperature and posessing flagella), the timothy grass bacillus, and the smegma bacillus. These organisms, when injected into the animal body, produce in the case of the bacillus mycoides no lesions (even when this organism is educated to grow at body temperature). In the case of the timothy grass bacillus a plastic peritonitis occurs with pseudo-tubercles, with massive doses in the guinea-pig, from which the animal recovers. The infection only proves fatal on the addition of butter, and only Rabinowitch has been able to pass the strain on subsequent inoculation; other observers repeating her work have failed. The organism produces no disease in rabbits.

A series of guinea-pigs were inoculated with 20 mgm. dry weight of these organisms. In the case of *mycoides*, after a week it was found that the intraperitoneal inoculation of an agar slope of mycoides grown at 37° C. produced death of a sensitised guinea pig in 60 hours. The *post-mortem* appearances were œdema of the abdominal wall, slightly turbid peritoneal effusion, enlargement and congestion of the spleen, liver, and kidneys, moderate distension of the lungs, engorgement of the right side and veins. The organism was recovered in pure culture from the œdema and peritoneal fluid, from the spleen, gall-bladder, urinary bladder, and heart's blood. Microscopically the organism was seen in the capillaries of the spleen and liver and was non-sporing. The post-mortem appearances were thus indistinguishable from those of anthrax.

With the timothy grass and the smegma bacilli an inoculation was made of one 24-hour glycerin agar slope intraperitoneally into each guinea-pig correspondingly sensitised one week previously. Death occurred in from ten days to a fortnight. The post-mortem appearances were emaciation and hair falling out, miliary tubercles throughout the body, some degree of plastic peritonitis in addition to the usual pseudo-tubercles that occur with the inoculation of these organisms into normal animals. The omentum was rolled up, infiltrated, and studded with tubercles. The organisms were recovered from the heart's blood in addition to other sources. The microscopical appearances were those of marked epithelioid reaction with the organisms in the lesions, and in the centre of some of the lesions typical granular necrosis. The post-mortem appearances were thus indistinguishable from those due to an intraperitoneal injection of tubercle bacilli.

Parallel to these is an experiment in which we were able to produce acute miliary tuberculosis in a rabbit with a very small quantity of human tubercle bacilli. The rabbit was inoculated with about 0·05 mgm. of human tubercle bacilli 14 days after sensitisation with 50 mgm. of killed pulverised tubercle bacilli. The rabbit died in one week. In a similar way Duval and Couret have shown that experimental leprosy lesions can only be produced in monkeys after previous inoculation with dead leprosy bacilli.

We found that the sensitive period for infection was from six to ten days after the sensitising dose. If, however, the second inoculation is given to a sensitised animal after an interval of a fortnight instead of a week the animal recovers and does not develop the disease, unless a much large second dose is given than in the above experiments. Late still the animal becomes so immune that the second dose, t produce any symptoms, has now to be so large that it is onl capable of producing delayed toxic death, the animal no living long enough to develop septicæmia. The reason fo this is that the ferment is increasing in quantity and i becoming more specialised as the length of time fro the sensitising dose increases. And only by using th methods we are just coming to can septicæmic death l produced.

Secondly, we will consider organisms to which fermen activity is relatively high, so that the guinea-pigs ar immune from this reason. Organisms of this description ar Hoffmann's bacillus, sarcina, proteus Zenkeri, staphyl coccus pyogenes aureus, streptococcus erysipelatis, an cyanogenus. We found that in trying to produce lesion with these organisms by the previous method w were unsuccessful, and in most of them the larg initial doses of the bacilli, 10–20 mgm. dry weight produced death from toxæmia, with occasional termina coli, &c., infections. From this we concluded that th available ferment present was capable of rendering non toxic relatively large quantities of bacteria. Such being th case, we thought that if by some means we could (1) prevent the ferment getting rapidly at the bacterium, or (2) delay ferment action, we should be able to produce septicæmia with these organisms; for we should prevent the rapid breaking down of the bacteria, and so allow aggressive substances to be formed. The bacteria would then be able to multiply *in situ* until the available ferment was so reduced that the organisms would be able to pass into and multiply in the blood stream. To obtain this result we injected the bacteria in 15 and 30 per cent. gelatin, and 2, 3, and 5 per cent. saline. The gelatin was used with the idea of delaying the access of the ferment to the bacteria, and of keeping the degradation products formed in their immediate vicinity and so produce around them a state of ferment equilibrium. The bacteria, then, as a result of this could multiply. The viscosity of the gelatin would further tend to delay the advent of the phagocytes. The gelatin might be thought to be able to produce toxic results by itself, which we found not to occur, or in adjuvanting the toxic substances formed from the bacteria by degradation bodies from the gelatin itself. That this latter apparently is not the case can be seen from our experiments in which egg sensitised guinea-pigs, receiving a second dose of egg albumin, so as to produce a great fall of temperature lasting for hours, were not susceptible to several slopes of staphylococcus inoculated simultaneously, though degradation bodies from the egg must have been present.

The hypertonic saline, as has been shown by Friedberger and his co-workers, inhibits ferment action, and we conceived that by injecting hypertonic saline into the peritoneal cavity the ferment action would be delayed until the necessary dilution of the saline had occurred by osmosis. We will discuss the effect of hypertonic saline on the bacteria later. Working by these methods we were able to produce fatal septicæmia with all these organisms, but the amount of bacterial substance required was very different with the different bacteria. The less primarily toxic the bacterium was, the more was required to produce septicæmic death.

Except in so far as the gelatin method can be used for demonstrating that where large amounts of ferment are presumably present, the amounts of bacterial substance required to produce septicæmic death are correspondingly large, in the light of further work we do not consider the gelatin method a good one for proving immunity due to large quantities of ferments; for we have been able to produce by this method, but not by the saline, acute septicæmic death with an unpassed mycoides (growing 37° C.). This can readily be explained. Friedberger was able to produce anaphylotoxin in the peritoneal cavity of guinea-pigs with any bacterium. We have noted that where large amounts of coagulated egg albumin are introduced into the peritoneal cavity toxic substances are formed from it, producing a fall of temperature. In the same way similar substances can be liberated from the bacillus mycoides, and in the viscid gelatin, zones of ferment equilibrium become established round the bacteria; the ferment then is incapable of destroying them, and by the time the delayed phagocytes arrive at the bacterium the aggressive substances prevent phagocytosis and the organism is able to survive.

Thus we have proved that the pathogenicity of bacteria depends upon the activity of the ferments in the animal host. If there is no, or slight, activity the organism is non-pathogenic, if there is a high degree of activity again the bacteria are non-pathogenic; and by either increasing or diminishing the ferment activity, as the case may be, the bacteria may be rendered pathogenic.

Now with regard to virulence of bacteria. This must be regarded as entirely an educative property acquired by the bacterium. Gal showed that bacteria could be rendered virulent by cultivation in the presence of an enzyme, such as the enzy[illegible] t bacteria [illegible] virulent,

We have shown (1) that bacteria which are primarily non-pathogenic can, after passage through a sensitised animal, become so altered that they now produce disease in a normal animal—that is to say, they can be acted upon by the normal ferments so readily that sufficient aggressive substances are formed; (2) that organisms which have been obtained from the blood of septicæmic animals, which are normally immune owing to the high activity of the ferment, inoculated into normal animals, will produce disease and death; and (3) that some organisms when they become virulent can develop a capsule. With regard to the first of these points we have been able to produce disease followed by death in normal animals after inoculating with passed bacillus mycoides, timothy grass bacillus, and smegma bacillus, not only in guinea-pigs in which the original passage was conducted, but also in rabbits and rats. In the case of the bacillus mycoides, it eventually became so virulent after several passages that one-twentieth of a 24-hours agar slope killed a normal guinea-pig weighing 300 grm. in about 36 hours. One-twentieth of an agar slope killed a rat in 24 hours, and half an agar slope killed a rabbit in 24 hours. Finally, 18 guinea-pigs which had been placed in cages in which other guinea-pigs had died from the disease, all died as the result of intestinal infection. It is interesting to note that one guinea-pig which was pregnant was found to have the bacillus mycoides in pure culture in the amniotic fluid. With regard to the timothy grass and smegma infections, the bacteria when isolated or when injected in the ground-up spleen produced in normal guinea-pigs death with [illegible] the lymphatic [illegible]. The organism [illegible] come so virulent [illegible]

The organisms when inoculated intraperitoneally into a rabbit in small quantity produce death in a week with general miliary tuberculosis, slight fibrinous peritonitis, and enlarged glands showing miliary tubercles in the chest. This is particularly important because lesions are not produced in the rabbit by the unpassed bacteria.

With regard to the second group of organisms, these, when passed, produce septicæmia with very small quantities without the aid of gelatin or hypertonic saline. It was found that the bacillus mycoides which ordinarily has flagella and no capsule in the animal body develops a capsule and loses its flagella when it becomes virulent.

We will first discuss the composition and function of the capsule. We conceive that the capsule is composed of extruded bacterial cytoplasm, which is extruded for the purpose of engaging the ferments and preventing them from reaching the bacterium itself, and causing its death and destruction. It appears to us that the mechanism is to produce a state of ferment equilibrium around the bacterium, so that the bacterium is shielded from the further action of the ferment and is able to grow and multiply. Whether this is successful or not depends upon the relative amount of bacterial protoplasm and ferment activity. We are aided in this conception by the action of hypertonic saline, noted in our experiments. The hypertonic saline in addition to hindering the action of the ferments also appears to have an influence on the bacterium. The bacterium being in a hypertonic solution is subject to osmosis, the result of which is that diffusion of the bacterial cytoplasm occurs, thus forming a capsule in which the same condition of ferment equilibrium can be maintained in the presence of the weakly acting ferments.

In the case of the gelatin similar zones of equilibrium are maintained around the bacteria in the gelatin. The gelatin prevents rapid removal of the degradation bodies produced around the bacteria. It is conceivable also that the bacteria exude a little protoplasm into the surrounding medium which may be more soluble than the capsules ordinarily demonstrable. This is kept in position by the gelatin, so that the necessary equilibrium zone can be maintained. This is seen in the case of our experiments with the proteus Zenkeri, where an unpassed strain was injected in gelatin and in 5 per cent. saline. Seven agar slopes injected in 5 per cent. saline produced no result beyond a transitory fall of temperature, but four agar slopes in gelatin produced toxic death and eight slopes produced septicæmia. The difference in the two cases would appear to be due to the gelatin temporarily acting as a containing capsule preventing the removal of the aggressive substances.

We would conceive that exotoxin is really this capsule formation in an exaggerated degree, but differs in that the bacterium diffuses its protoplasm into the surrounding medium instead of retaining it in its immediate vicinity. And we regard exotoxin as soluble bacterial protoplasm which only becomes toxic on contact with ferment. The reason why we are led to conclude this is that with bacillus diphtheriæ and bacillus Hoffmann a septicæmia has never been produced. This appears to us to be due to the fact that zones of ferment equilibrium do not occur intimately around the bacterium, and so the ferment, which is apparently of high activity, is able to penetrate and kill the bacteria, the animal dying from toxæmia. The proof of the high ferment activity is that the guinea-pig can withstand large doses of these organisms if inoculated in the ordinary way, and that the animal does not take the disease after sensitisation. Now we have been able to obtain a Hoffmann and diphtheria septicæmic death by means of the gelatin and saline methods.

From this we conclude that by the gelatin method we were able to keep the exuded bacterial protoplasm in intimate contact with the bacterium, so that a zone of ferment equilibrium could be established round the bacterium, forming a protective sheath against the further action of the ferment. In the case of the saline, the inhibition of the ferment action and the exudation of the greater amount and the lessened tendency to diffusion of the bacterial protoplasm will bring about the same result.

That these animals die from proteolytic degradation body poisoning can be demonstrated by the fact that the inoculation of their blood intravenously into a normal guinea-pig produces acute toxic death (acute anaphylaxis). This brings the diphtheria bacillus into line with the other bacteria.

And it shows that death from bacteria possessing an exotoxin or not is always due to the same cause—i.e., proteolytic degradation body poisoning.

In order to further this view several points require explanation. How does toxin become toxoid? Toxins may be converted into toxoids by heat, by standing, by sunlight, and by drugs such as iodine. With regard to heat, if exotoxin is bacterial substance it will contain the autolytic ferment of the bacterium. Now, on moderate warmth or standing this ferment starts degrading the bacterial protoplasm, and after a time no further degradation can occur (unless the end-bodies are removed) owing to ferment equilibrium, so that at any time there will be present (1) unaltered bacterial protoplasm, which on inoculation can be converted into toxic early degradation bodies; (2) early degradation bodies, which on further action are rendered non-toxic; and (3) non-toxic end-bodies.

The much smaller amount of unaltered protoplasm is more rapidly attacked by the ferment present in the animal, so that the toxic bodies only tend to be present at any time in small amount, producing local changes at the seat of inoculation and no general poisoning. On this assumption we can also explain how it is that a toxoid can act as an antigen. Again, this explains why the fixation of complement occurs when toxin and antitoxin are added together, for we must consider the antitoxin as a co-enzyme or amboceptor.

Then, with regard to the difference between the L 0 and the L + dose, on the principle on which these are worked out, no account is taken of the normal active ferment present in the guinea-pig.

With regard to chemicals such as iodine converting the toxin into toxoid, we have the observations of Friedberger and Schittenhelm that iodised albumin can act as an absolutely foreign proteid to the homologous animal, so that iodine acting on bacterial protoplasm may so alter it that the ferments which could easily attack the ordinary toxin can now only very slowly act on the iodised "toxin." But as we know, iodised toxoid can produce antitoxin, that is, a ferment against the unaltered toxin; this is parallel to the observation of Schittenhelm that guinea-pigs sensitised against iodised egg albumin can react not only to that but to plain egg albumin. This means that the newly evolved ferment can also degrade the non-iodised homologous proteid.

Though we have discussed so far pathogenicity and virulence separately, yet we have come to the conclusion that they must be considered together. Thus an organism by passage may become so altered that it is able to infect and multiply in an animal in which there is no specific ferment. The mycoides could only become pathogenic in the first instance on inoculation into a sensitised animal—that is, an animal that has acquired a certain amount of specific ferment. After passage this organism is capable of producing disease in a normal animal—that is, an animal which only contains panenzyme. Hence we must conclude that the bacterium has become so altered that it can be attacked by the panenzyme at such a rate that sufficient aggressive substances are formed to prevent phagocytosis, and developed the property of extruding a capsule to form a protective zone in which ferment equilibrium occurs to prevent the enzyme from penetrating and destroying it. Thus we see that a bacterium which is virulent may also be pathogenic. The passed smegma and phlei are similar.

Now we must consider the bacteria which are not under ordinary circumstances pathogenic, and which do not become so when the ferment is raised against them by the production of specific antibodies. The first point we must discuss is the activity of the ferment. We have come to the conclusion that septicæmia is not produced by a process of *general ferment* equilibrium in the whole animal body; but that septicæmia occurs if the relation between the quantity of bacterial protoplasm and the ferment activity is such that aggressive substances are formed from the bacterial protoplasm by the ferment in sufficient amount and remain as such long enough to inhibit phagocytosis.

Now first of all we can compare *in vivo* experiments with experiments carried out in the test-tube. From theoretical considerations the quantity of ferment only influences the rate of degradation, not the amount. So that *in vitro*, no matter how much ferment is present, ferment equilibrium eventually takes place and the same amount of the undegraded material remains in the two cases. This would mean unaltered bacterial protoplasm. We know from experiments *in vitro* that under these conditions after ferment equilibrium has occurred the bacteria start to multiply again. Now, taking two guinea-pigs with the same quantity of ferment, if in one the ferment activity is unaffected and in the other the ferment activity is damped, and into each the same amount of living bacterial protoplasm is inoculated, ferment equilibrium should occur in both, and septicæmia, if it occurs in one should occur in the other, but at different times. But we find that where the ferment has been damped septicæmia occurs, and not in the other. Hence we must conclude that septicæmia is not produced by general ferment equilibrium in the animal body alone. Taking account also of rate of removal of end bodies in both cases, these are being gradually removed, in the one case more rapidly than the other; so that in both cases, theoretically, if the amount of ferment is sufficient, the primary substance should be completely broken down. Hence we must conclude that the occurrence of a septicæmia depends upon the presence at any given time and the maintenance of early degradation products sufficient to prevent phagocytosis. Where the ferment activity is great, the accumulation of the aggressive early degradation bodies is temporary, so that the inhibition of phagocytosis is only temporary, and this ceases directly the bodies are further degraded.

Finally there remains for discussion the fact that these organisms, which by our methods have produced septicæmia, are now able when directly inoculated into a normal animal, and in much smaller doses, to produce septicæmia. The fact that they can do so is a great argument against fermentative equilibrium being the sole cause of septicæmia.

Taking two normal animals and inoculating the same quantity of passed and unpassed bacteria, in the former septicæmia occurs, in the latter nothing. Here the factors are the same: the same activity, the same weight of bacterial protoplasm; hence if septicæmia were solely due to general ferment equilibrium septicæmia should occur in both. Hence we conclude that the difference is due to the retention around the passed bacterium of bacterial protoplasm in various stages of degradation, forming on the one hand an aggressive shield against the phagocyte, and on the other against the ferment, so that the bacterium can multiply Here again we believe that a bacterium which is virulent i so in virtue of its being able to exude some of its cytoplasm around itself and not into the surrounding medium, and w should expect that on these lines a diphtheria bacillu which became virulent would not produce soluble exotoxin but keep its halo of bacterial substance around itself. Tha this is probably so is brought out by the well known observation that a very virulent diphtheria bacillus produces very little exotoxin.

Conclusions.

1. Ferments form an important normal mechanism of defence against bacterial invasion. The ferments performing this important function are: (*a*) the normal panenzyme, (*b*) the slightly differentiated specific enzyme, (*c*) the thermolabile specific coenzyme or amboceptor, and (*d*) the thermostable specific coenzyme or amboceptor. These last two adjuvant and accelerate the action of the ordinary enzyme. The action of the ferment is to bring about proteolytic digestion of the bacteria.

2. Exotoxins and endotoxins are bacterial protoplasm and are not primarily toxic *per se*, but only become so when acted upon by the ferments.

3. The action of the ferments on the bacterial protoplasm is to produce toxic early proteolytic digestion bodies. These bodies, besides being toxic to the animal, are also aggressive in the sense of Bail—i.e., are anti-phagocytic.

4. The action of this toxic substance, besides being aggressive, is to produce (*a*) in large amounts, death; (*b*) in lesser amounts, fall of temperature; and (*c*) in small amounts, fever. This substance is the cause of death in all bacterial infections.

5. The virulence of a bacterium is dependent upon the power of exuding around itself a zone of its cytoplasm, which remains in position and acts as a protective shield. The production of a zone of ferment equilibrium in this shield protects the bacterium itself from the penetration of the ferment. The shield thus acted upon is also aggressive to phagocytosis.

6. Pathogenicity is due to (*a*) the virulence of the bacterium, and (*b*) the relative activity of the ferment to the bacterium. Thus we should say that immunity is due to ferment action and phagocytosis—i.e., it is cellulo-humoral.

THE JUGULAR PULSE

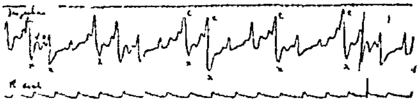
By H WALTER VERDON, F R C S ENG

OBSERVATIONS made below on the deflections of the jugular curve may prove of interest to readers who like myself, are following Dr James Mackenzie's methods of clinical cardiography

The c wave —The absence of a dicrotic appendage from the c wave is proof that this wave is not the product of an ordinary arterial impression On anatomical grounds alone it cannot be said to take its origin from carotid pulsation because, below the sinus vein and carotid artery do not lie in contact but are separated from one another by an interspace giving room for the lodgment of the vagus nerve The wave might be regarded as resulting from pulsation of the subclavian or innominate arteries, but here again the absence of dicrotic appendage creates difficulty On the other hand, relationship between venous and arterial columns is intimate in the neighbourhood of the aortic arch The vena cava superior, conducting blood to the auricle from its tributaries in the neck lies in touch with the ascending limb of the aorta and embraces it on its posterior and right lateral aspects During the sphygmic period, elongation of the arterial arch takes place, and elongation is followed by recoil This lurch of the aorta which is additional to pulsatory phenomena, common to all arteries cannot fail to be instrumental in transmitting an impulse to the venous column, and the resulting wave must necessarily consist of simple positive and negative curves unattended by any dicrotic encumbrance It is therefore suggested that the aorta is the source of origin of the c wave (See Fig 1)

X and y depressions, and v, a, and c eminences —Depression x occupies a prominent place in the jugular curve It extends to a lower plane in the normal tracing than that attained by any other deflection, a fact indicating that here auricular pressure reaches its extreme limit of minus quantity It is a landmark separating the territory of a cyclic period from that which precedes and that which follows it It records the *fraction of time when a period is closing* with the end of ventricular systole and when another period is *opening with the beginning* of ventricular diastole, consequently an alternating series of x depressions and triple waves is the distinguishing feature of the jugular curve (Fig 1)

FIG 1



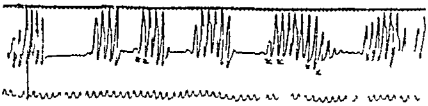
The declivity of the c wave is noticed in the above curve as descending to the fundus of the x depression unattended by a dicrotic appendage

[illegible] cyclic period of the tracing and [illegible] one x depression to the fundus [illegible] the semblance of a triple wave is in reality a simple curve deflected at its apical part by the upheaval of eminences usually differentiated by symbols v a and c In the case of normal and slow pulses this simple cyclic wave is bisected at a point lying between v and a eminences by the interpolation of the y depression But the y depression is not a constant feature When pulsation rises above the normal beat rate it appears only as *a mere indentation* of the curve, and when pulsation *still* further quickens it becomes entirely obliterated, leaving no trace of its presence behind

Fig 2 represents the curve of a very rapid pulse from which the y depression is absent Figs 3 4, and 5 show the evolution of the y depression as the pulse slows down In Fig 3 it appears as a mere indentation interposed between the eminences v and a at the apical part of the cyclic wave In Fig 4 representing a pulse of normal rate this depression splits the cyclic wave except at the basal part, forming two distinct undulations v and a Fig 5 represents a pulse of 35 beats a minute *The y depression completely bisects* the cyclic wave and extends even below the plane of the x depressions which fix the limits of the cyclic period

The y depression cannot, therefore be regarded as representing a process in the cardiac syndrome essential to the maintenance of the circulation It is caused by a momentary fall in intracardiac pressure when the muscle forming the wall of the right ventricle becomes attenuated by relaxation and hence more open to the influence of aspiratory energy lodged in the media of the heart's environment

FIG 2

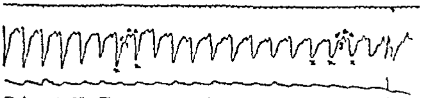


Pulse-rate 210 [illegible]

diastole the downstroke with that of ventricular systole

Eminences v, a, and c also represent processes in the cardiac syndrome which are not essential factors in the upkeep of the circulation V appearing at an early stage of diastole is formed by the recoil of the a v septum a by auricular systole and c by an impulse communicated to the venous column from the aorta

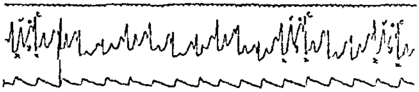
FIG 3



Pulse rate 85 The upper curve is jugular Symbols x x mark the limitations of the cyclic wave Depression y appears as a notch between the eminences v and a

The solitary jugular cyclic wave —Having now given consideration to the y depression and to the upheaval of the v, a, and c eminences which in turn deflect the curve of the solitary wave from its simple course, we must now enter upon a survey of the processes determining the rise and fall of the solitary wave itself These processes it will be observed constitute the essential forces of the circulation

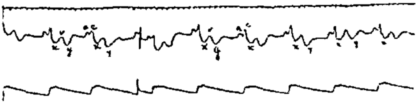
FIG 4



Pulse-rate 66 The upper curve is jugular Symbols x x mark the limitations of the cyclic wave Depression y splits the cyclic wave into two parts except at its basal zone

The pericardial sac consists of a tough, inelastic, fibrous membrane attached below to the aponeurosis of the diaphragm, above to the roots of the great vessels entering and leaving the heart, and in front to the upper and lower ends of the sternum It serves the purpose of preventing undue expansion of the walls of the cardiac cavities under the aspiratory influence of intrathoracic negative pressure which is never less *in quantity* than *minus* 8 mm Hg and sometimes attains a degree of elevation represented by minus 30 or 40 mm Hg

FIG 5



Pulse-rate 35 The upper curve is jugular Symbols x x [illegible] y depression [illegible] cyclic wave

During systole the cone of the heart descends drawing down with it the floor of the auricles and occupies a restricted space at the fundus of the pericardial sac. The venous column engaging the right auricle and filling the great veins entering this cavity also falls to a lower plane than that previously occupied by it, and is thus more fully exposed to the influence of a minus pressure environment. Thus the declivity of the solitary jugular cyclic wave runs synchronously with ventricular systole.

At the end of systole diastole begins. The cone of the heart expands, pushing backwards the *a.-v.* septum and occupying the pericardial sac almost to its full capacity. Since the tricuspid valves open towards the ventricle, they float with the blood stream and oppose no obstacle to its entrance; moreover, the opening of these valves causes no deviation in intracardiac pressure. Consequently, during the period of diastole auricle and ventricle constitute a single chamber in which pressures become instantly equalised. The inflowing venous stream, which gradually fills this single cardiac chamber and afterwards backs itself up in the tributory veins, neutralises intracardiac minus pressure, converting it to a positive quantity, and thus causes a steady rise in venous pressure.

In the jugular curve, when the pulse-rate is above 80, very little is noticed of the *y* depression, because the volume of the incoming stream is more than sufficient to keep pace with the relaxation of the ventricular wall, and because ventricular systole begins while auricular pressure is still rising; consequently the acclivity of the solitary jugular curve runs synchronously with ventricular diastole.

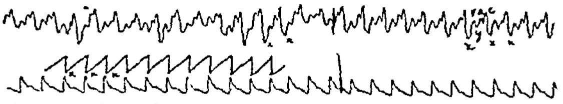
In the slow pulse, however, in which case diastole is prolonged, the wall of the ventricle becomes attenuated by extreme relaxation, and hence it is particularly open to the influence of aspiratory energy lodged in the media of the heart's environment. As a result minus pressure asserts itself in the auriculo-ventricular cavity, and is recorded by a negative deflection of the jugular curve recognised in depression *y*.

If deflections which do not represent processes essential to the maintenance of the circulation be eliminated it is noticed that the positive curve of the venous pulse is coincident with the negative curve of the arterial pulse, and that the fall of the venous cyclic wave is contemporaneous with the rise of the arterial.

The jugular curve, then, consists of a sequence of cyclic waves arising from the interaction of two forces in the presence of limitations imposed by the pericardial sac. One of these forces consists of negative pressure lodged in the media of the cardiac environment, the other is exemplified by ventricular systole. These potential and these kinetic energies are engaged in filling and emptying the ventricles.

The effect upon the venous column resulting from the exercise of these energies is manifested by the appearance of a solitary wave occupying the entire cyclic period of the jugular pulse. When the jugular pulse is synchronised with the radial the trend of pressures, as indicated by the curves, is identical, except that they exist in inverse order of incidence. (Fig. 6.)

FIG. 6.



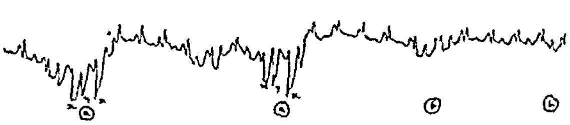
Tracing of jugular and radial pulses. Interpolated between them is a diagrammatic curve illustrating the trend of venous pressure uninfluenced by minor circulatory processes.

The respiratory curve.—The wide deflection of the jugular curve, which includes a sequence of many cyclic periods, results from the rise and fall of negative pressure in the thoracic cavity coincident with inspiration and expiration; ordinary or normal respiration produces a shallow deflection, gasping or forced respiration a deep one. Negative pressure in the thoracic chamber is maintained by sustained tension of the elastic fibre of the lungs, tautness of the bony and cartilaginous framework of the thoracic wall, tonus of inspiratory muscle, and integrity of pleural cavities.

During normal inspiration the gradient of intrathoracic negative pressure rises to minus 30 mm. Hg. During ordinary expiration and the pause succeeding it the gradient falls to minus 8 mm. Hg. During forced or gasping respiration the range of negative pressures reaches wider proportions, attaining minus 40 or 50 mm. Hg during inspiration. The greater width of range is induced almost solely by depression of the aponeurosis of the diaphragm, which while normal respiration is continued maintains a stationary plane.

Depression of the aponeurosis of the diaphragm has a particular effect on the jugular curve, as observed in Fig. 7.

FIG. 7.



The inspiratory deflections of [illegible]
by deep *x* and *y* depressions [illegible]
aponeurosis of the diaphrag[illegible]
is thoracic, and the aponeurosis remains on the same plane
during inspiration and expiration.]

With the descending aponeurosis, the pericardial sac is drawn down, and together with this structure the heart and superior cava. As a result of the fall of the pericardial sac to a lower plane, an extended area of the auricular and venous walls and the contained blood column are exposed to the influence of intrathoracic and intrapericardial negative pressures, and the effect of these influences is registered in the deep deflections of the jugular respiratory curve. These deflections are made remarkable by the width and depth of the *x* and *y* depressions.

A CASE OF HAIR CAST OF THE STOMACH; GASTROTOMY; RECOVERY.

BY L. STOREY, M.B., CH.B. GLASG., M.R.C.S. ENG., L.R.C.P. LOND.,

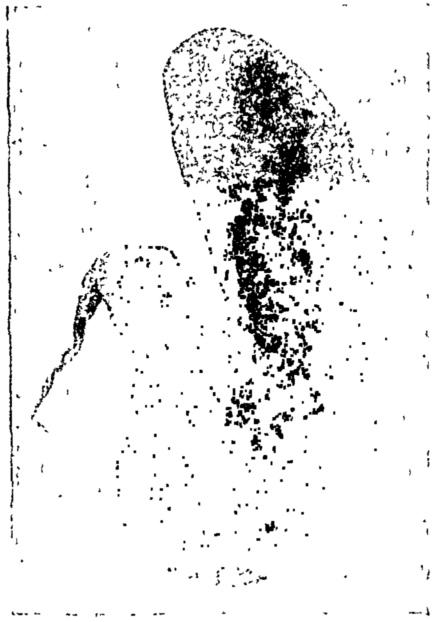
LATE HOUSE SURGEON TO THE DEWSBURY GENERAL INFIRMARY.

HAIR casts of the stomach are of such comparative rarity that the following case seems worthy of being placed on record.

The patient, a girl aged 17, was admitted to the General Infirmary, Dewsbury, on June 29th, 1910, complaining of vomiting, loss of flesh, and general weakness. Small and unhealthy in appearance at birth, the first few months of her life were a source of great anxiety to her parents. Improvement, however, set in: at 3 years of age she was able to walk and at 5 years to go to school. At the later age a small "lump" was noticed in her abdomen. The medical man who was consulted gave it as his opinion that the child was suffering from "consumption of the bowels." This swelling slowly increased in size, and her general condition remained unsatisfactory throughout her school days—i.e., from 5 to 13—and during that time she was under medical care on six or seven occasions. During the next four years the local swelling slowly increased in size, whilst the general condition deteriorated, and at Easter, 1910, the vomiting was so persistent that she had to give up work. Swelling of the feet in the evenings, breathlessness and palpitation on exertion, pains in and swelling of the knee-joints, with an evening temperature of 104° F. necessitated removal to hospital. Save for the fact that when 2 years of age it was noticed that the left side of the head was "quite bald" and that small masses of hair were being passed by the bowel, the previous health was uninteresting. There was no history of insanity in the family, and the girl herself was considered to be "the life of the home."

On admission the patient was apparently anæmic and markedly emaciated. Her height was 4 ft. 2 in. and weight 3 st. 11½ lb. The hair was abundant, with plaits 14 in. in length, somewhat thin in the temporal regions, and of a mid-brown colour. Evidences of rickets were present. The temperature was normal. Save for a prolongation of the first sound at the apex, unconducted and unaccompanied by accentuation of the second pulmonic, the heart was normal. Examinations of the lungs, urine, and blood were negative. The abdomen was distended generally. In spite of this, however, a distinct swelling was visible and palpable in the lower epigastric and upper umbilical regions. The swelling was hard and immobile. There was no free fluid in the peritoneal cavity. On July 28th, 1910, laparotomy was performed and a mass of hair was removed from the stomach. The patient made an uninterrupted recovery.

The mass of hair was hard and an exact cast of the stomach (see illustration) It weighed 2¼ lb. In length it measured 10½ in., the great curvature 20 in., and the lesser 10½ in. Though not unique in dimensions, it is in my opinion the truest cast recorded.



Hair cast of the stomach weighing 2¼ lb.

According to Butterworth's[1] comprehensive article on this subject there have been 42 such cases reported, 39 of the series occurring in females. Two other cases were also recorded about the same time, one by Newbolt and Jones[2] and the other by Still.[3] The youngest case was that of a girl aged 8 years, and the oldest an insane man aged 43. In 75 per cent. of the cases the habit commences during the first few years of life. One would imagine insanity to be a more frequent cause. In only four of the cases, however, has it existed. The majority of hair balls are of small size. The smallest, recorded by Ilderton,[4] weighed 2¼ oz., whilst the largest on record, that of Mermet d'Hauteville,[5] weighed 6 lb.

I am indebted to the members of the honorary medical staff for permission to report this case.

Huyton, Liverpool.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Actinomycosis.—Streptothrix Infections.

A MEETING of this section was held on Jan. 14th, Mr. G. H. MAKINS, the President, being in the chair.

Mr. A. G. HAYNES LOVELL read a paper on Actinomycosis, with special reference to involvement of bone, and gave an account of a case in which the inferior maxilla was primarily involved. It was that of a man aged 23. On July 20th, 1911, pain began without cause around the left lower canine tooth, then pain in the first molar. The latter was extracted though apparently healthy. Then pain started in the second bicuspid in which thermal sensation was much impaired. This was extracted, but showed no sign of disease. On August 1st external jaw swelling appeared and pain still continued. On the 12th his temperature was 99° F. A mass of the size of a walnut was now present in connexion with the lower jaw. No sinus occurred nor sign of disease in the mouth. A skiagram by Sir James Mackenzie Davidson showed rarefaction and suggested an abscess at the root of the first bicuspid. There was no sign of new bone formation or periostitis. Three teeth in front of those extracted were loose and their sensation was diminished. A few days later an incision let out a little pus. A film of this showed no organisms, but a culture after eight days grew a streptothrix—Gram-positive and acid-fast. The sulphur granules were now found in the scanty pus. On August 24th pot. iod. gr. xv. t.d.s. was started. On Sept. 1st an autogenous vaccine was used and repeated at ten-day intervals. On the 5th the bone was scraped subperiosteally, and the pot. iod. increased to gr. xxx. t.d.s. On Dec. 9th the swelling was very much smaller, but the sinus persisted A skiagram showed less rarefaction, but still an abscess cavity. On Feb. 16th, 1912, the difference between the two sides was only just perceptible, and treatment was stopped. The patient was still quite well. In remarking on the pathology of the condition, Mr. Lovell said that bone was usually involved by extension from disease of adjacent soft parts. The only region where an apparently primary disease of bone occurred in man was in the jaws. Here it was probably due to infection through sockets of carious teeth. Primary bone lesions had never been produced experimentally. Two cases of isolated foci in bones were reported—one in the lower end of the femur and one in the upper end of the tibia. Poncet gave the best description of bone involvement. There might be: (1) Periostitis due to adjacent disease of soft parts; (2) peripheral rarefaction (rare); (3) a central perforating type (case here described), the commoner type in man; (4) a central neoplastic type, common in cattle. The central perforating type might progress to parchment crackling and spontaneous fracture, but usually the bone was perforated in several places and sinuses resulted. Sequestra of any size rarely or never occurred. Toothache was an early symptom. Subsequently teeth became loose and their sensation impaired. There was little or no true bony thickening in these cases.

Mr. T. H. KELLOCK read a paper on Some Clinical Features of Actinomycosis. He stated that the occurrence of this disease seemed to be more and more frequent, and it had always to be borne in mind when discussing diagnosis. From its prevalence in people of all classes of society, of all ages, and in persons of various occupations, it would seem that the organism in some of its varieties had ceased to exist, as was formerly believed, solely on grass, hay, or straw, but had become almost ubiquitous The disease was met with under two very different conditions: the simple or clean, and when septic infection had been superadded; and it seemed difficult to demonstrate the organism in the presence of the latter. This possibly explained the difficulty of microscopical or bacteriological confirmation in many cases.

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[1] Journal of the American Medical Association, August 21st, 1909.

[2] [illegible]

[3] [illegible]

[4] [illegible]

[5] Journal de [illegible] ne, Paris, 1813, vol. xlviii.

Probably every case was infected through the alimentary or respiratory tracts, but it might be carried by the bloodstream to organs that did not communicate directly with these tracts. Once inside the cavities of the body the organism seemed to have a peculiar tendency to insinuate itself into ducts that opened on the surface and infect thus the salivary glands, liver, and vermiform appendix. His experience of the mode of spread was that it rarely did so by means of the lymphatic circulation, and it was very rare to find the lymphatic glands affected. Its preference seemed to be to spread by direct continuity of tissue, and, unlike tuberculosis, to ignore anatomical boundaries and cause adhesions by invading all and every structure with which it came in contact. It had been supposed that the portal vein was the means of conveying the organism to the liver when that organ had been found infected, but it seemed more likely that the hepatic infection was an independent one direct from the duodenum. For the purposes of the paper he was relying solely on cases that had come under his own notice. When the disease attacked the lower jaw the most marked feature was its painlessness as compared with a septic infection of the same part. Often the first indication was a small, red, puckered swelling on the face, preceded possibly by slight toothache or merely a feeling of tension. The spot enlarged, was found to be adherent to bone, softened in the centre, and if incised was found to contain very little pus. If the spot was small and isolated it was seldom followed by necrosis, and would often get well without any treatment beyond incision. The upper jaw was affected only very rarely; he had seen no example of it. In three cases he had found the disease affecting the centre of the cheek. In these cases he believed the infection was through the opening of the parotid duct. Infection of the various glands the ducts of which opened into the mouth was very common; he had found it in the parotid, submaxillary, and sublingual glands. In two cases he had seen the disease in the tongue, affecting the deeper parts. There was no surface ulcer. A rather soft, circumscribed, painless swelling of somewhat rapid growth without interference with the movements of the tongue, were the chief characteristics. When it affected the tissues of the side of the neck the most noticeable features were the marked fixation it caused and the manner in which it spread backwards, sometimes to the middle of the back of the neck. When the lung was the seat of the primary infection, adhesion to the chest wall often occurred rapidly. One met with chronic abscess at almost any part of the chest wall—under the heart, in the axilla, or just under the clavicle seemed the commonest places. Many cases of the disease attacking the vermiform appendix and cæcum had been recorded. Particular features in these cases had been the large amount of infiltration with comparatively little breaking down in the clean cases, and the curious behaviour of the abscesses when such occurred, lifting up the iliac vessels and infecting the psoas muscle in one case, coming to the surface in the middle line above the umbilicus in another. In one of his cases the right kidney was the part affected. The kidney was removed, under the impression that it was tuberculous, from a young woman, who besides a kidney tumour had pyuria and pyrexia. After prolonged treatment with large doses of iodide of potassium she got well, and remained so until lost sight of three or four years later. In all these cases the diagnosis was confirmed by bacteriological examination. The affections for which he had mistaken this disease, and known it mistaken by others, had been streptococcal infections in cases of the lower jaw and salivary glands; tuberculosis, sarcoma, carcinoma, gumma, and in one case for salivary calculus. To sum up, the chief clinical features were: its existence under two conditions—the clean and the septic; its comparative painlessness; the rather curious linear puckering which it caused in the skin; the way in which it infiltrated all the surrounding structures disregarding anatomical boundaries and causing adhesions; its disposition to enter ducts opening on to a mucous surface; the very little pus that was evacuated even when what appeared to be a collection of some size was opened; the rapid improvement after scraping and the administration of sufficiently large doses of iodide of potassium; and, lastly, the remarkably little deformity or disfigurement that resulted after treatment had succeeded in eradicating it.

Mr. A. G. R. FOULERTON read a paper on Some Points in the Pathology and Diagnosis of Streptothrix Infections.

SECTION OF LARYNGOLOGY.

Exhibition of Cases and Specimens.

A MEETING of this section was held on Jan. 10th, Mr. HERBERT TILLEY, the President, being in the chair.

The PRESIDENT exhibited the Chart of a patient, aged 10, with a continuous evening temperature of 100° F. for 14 days, with slight tonsillitis and enlarged glands, which had subsided. A swab tonsillar culture revealed streptococcus longus culture with staphylococci. Dr. Eyre also isolated a similar streptococcus from a bladder specimen. The opsonic index was 0·72 when an autogenous vaccine from the tonsil was injected. This was followed by a reaction. Ten c.c. of polyvalent antistreptococcal serum was injected (Lister Institute), and next day 1·25 millions of autogenous bladder streptococci. The temperature, which had mounted to 103°, subsided before the third injection of vaccine prepared from the bladder streptococci had been used. The marked improvement to the last vaccine was the feature of the case.—Mr. P. R. W. DE SANTI suggested the symptoms were due to a general streptococcal infection.—Mr. F. J. STEWARD related similar cases with recurrence of fever.—Dr. W. JOBSON HORNE did not attribute benefit to the vaccine.

The PRESIDENT also presented a case of application of Galvanic Puncture to a Tuberculous Ulcer of the Cord by the direct method under cocaine, the condition now being healed. Evidence of lung trouble with tubercle bacilli in the sputum was adduced. A case of Granular Congestion of the Left Cord, the result of an ulcer which had healed under potassium iodide, was also exhibited by the President.

Mr. C. I. GRAHAM presented a case of Cyst of the Pituitary Fossa, for which operation by the nasal route was discussed. The patient was admitted under Dr. Wilfred Harris with failing sight, temporal headaches, drowsiness, slow mental reaction, and incontinence of urine for several months. A skiagram showed the pituitary fossa to be flattened out and enlarged. Under intravenous administration of ether, an incision was made in the middle line from the tip of the nose into the lip, splitting the columella; the greater part of the septum was removed. The mucous membrane over the sphenoid was raised, and then the anterior wall and intersinous septum were removed till the pituitary fossa was opened (Cushing's method). Two drachms of fluid escaped. During the first 24 hours there were thirst and polyuria. The patient was now up and well, except as regarded his sight, which was improving.—Dr. G. WILLIAM HILL pointed out that in Cushing's operation the upper lip was turned up, and referred to the advantage in the use of Killian's long speculum.—Mr. STEWARD requested that full notes be inserted in the "Proceedings," as this was the first case dealt with by this procedure in England.—Dr. DAN MCKENZIE intimated that Hirsch, of Vienna, had found that the advantage of this route was the diminished danger from sepsis.

Mr. L. COLLEDGE exhibited two cases of Laryngeal Paralysis due to central lesions in the vagus area, probably tuberculous in nature.—The PRESIDENT recalled a case of syringomyelia in which somewhat similar signs were present. —Mr. F. A. ROSE related a somewhat similar case which recovered.—Dr. L. W. HEMINGTON PEGLER ascribed the lesion as due to a pachymeningitis.

Mr. G. W. BADGEROW'S case of Congenital Web of the Larynx, in which a white web was attached to the anterior two-thirds of the cord in a boy, aged six, was the subject of a prolonged discussion.—The PRESIDENT described a case in which coloboma iridis was also present.—Mr. C. A. B. HORSFORD recommended excision by the indirect method; it was well to be prepared for tracheotomy.—Dr. HILL recommended a laryngo-fissure kept open for one month, during which time a splint is inserted. A particular case of his cannot do without a tube, but can speak quite well.—Mr. A. S. HUTCHISON questioned the advantage of operation unless good articulation were obtained.—Dr. H. W. FITZGERALD POWELL considered that such cases were best left, though Lack's tubes used after a laryngotomy gave good results.—Dr. J. DUNDAS GRANT was of opinion that such a condition would call for tracheotomy during one of the exanthemata.

Dr. E. A. PETERS presented a case of Extraordinary

Mobility of the Tongue which could be passed into the postnasal fossa —Mr G W BADGEROW indicated that irritation of the pharynx was the immediate cause of the use of the tongue —Dr J DONELAN described that suicides in slave ships were caused by passing the tongue in this manner

Dr PETERS also presented a case of Multiple Papillomata of the Larynx which Dr JOBSON HORNE considered should be dealt with by the direct method, and removals, if necessary, repeated once a month —Mr STEWARD also recommended this method and considered that the difficult age was about 2 years By the age of 9 the tendency to recur had diminished —Mr C W M HOPE supported this view though the resulting œdema sometimes led to a necessity for intubation —Dr POWELL mentioned that tracheotomy alone cured some cases —Mr T A ROSE had used sulphate of magnesia without improvement —Dr HILL saw such cases every fortnight —Dr DUNDAS GRANT removed the growths as they appeared and rubbed in alcohol and salicylic acid into the base —The PRESIDENT mentioned a case of his which sprouted with papillomata even in the tracheotomy wound This patient had undergone 43 operations and was seen every two or three months

Dr HILL then took the chair

Dr PETERS showed a case of Soft Bony Growth of the Antrum in a girl aged 14 years It was opaque to transillumination and the walls except the palatal bulged slightly An artificial antrum had been scooped out of the solid mass nine months ago and the condition was stationary —Dr W H KELSON referred to similar cases in which the condition was bilateral —Mr W G HOWARTH inquired as to the translucency —Mr F H WESTMACOTT had experienced such cases which were due to a hyperplasia instead of vacuolation of the superior maxilla, he advised gouging out of all the soft material contained in the bone, and considered the prognosis in a case so treated to be good

Mr HOPE exhibited a case of Unusual Form of Syphilitic Laryngitis which had occurred during residence in Norway The uvula arytenoids and superior ventricular bands were occupied by white solid swellings The palate was not anæsthetic, but healed scars were present Wassermann s reaction was positive, and 0 6 grm of salvarsan was given with marked reaction and subsequent local improvement Another similar intravenous injection was followed by another reaction —Dr LIEVEN (Aix) considered that in t [illegible]

[illegible]

actions were dangerous and had probably caused the death of many patients In one series of early cases in which there was no glandular enlargement Wassermann s reaction became negative in 5 per cent , but this was rarely the case The relapses of secondary cases treated by the salvarsan method were uncommon , he considered that only a few of the fatal cases had been published

Dr JOBSON [illegible] with pain running up in [illegible] ath The tongue was p[illegible] ere was a fulness at the base of the tongue A course of *potassium* iodide resulted in cure of the condition which was probably due to gumma at the base of the tongue

SECTION OF OBSTETRICS AND GYNÆCOLOGY

Adenomyoma of Recto uterine and Recto vaginal Septa —The Lighting of Continental Operating Theatres —Foreign Bodies Removed from the Abdomen

A MEETING of this section was held on Jan 2nd Dr AMAND ROUTH the President being in the chair

Dr CUTHBERT LOCKYER read a paper on Adenomyoma of the Recto uterine and Recto vaginal Septa, in which he first remarked on the rarity of new growth arising in the connective tissue space intervening between the rectum on the one hand and the uterus and vagina on the other, he had been unable to find any such case recorded in the 49 volumes of Transactions of the Obstetrical Society of London He described in detail a case which had come under his own observation The patient was a sterile married woman aged 35, for the previous 12 months menstruation had been excessive , there was a good deal of pain in the rectum worse at night, and latterly the defæcation had become difficult There had been no bleeding from the bowel On examination a hard mass was felt in the posterior fornix, which was attached to the supravaginal cervix and projected into the lumen of the rectum the rectal mucous membrane covering it being intact The vaginal cervix was normal On laparotomy being performed the body of the uterus and the appendages were found to be normal there was no cellular infiltration and the growth, which was below the peritoneal reflection was firmly fixed to both rectum and uterus The ureters were first dissected out, the left one being firmly incorporated with the growth , the uterine arteries were then tied *and the parametric* tissues divided as far out as possible The bladder was next separated, and the anterior vaginal wall divided Then the rectum was divided between clamps above the growth freed as low down as possible and again divided together with the posterior vaginal wall below the growth The lower end of the rectum was closed and the upper end fixed in a separate opening in the left iliac region Suprapubic and vaginal drainage was employed The patient was making a good recovery On microscopical examination the growth was seen to consist of dense fibro muscular tissue in which were sparsely scattered simple gland tubules surrounded by cellular tissue similar to that found around the tubules in an adenomyoma of the uterus Histologically the growth was comparatively benign Dr Lockyer suggested that the growth might have originated in some vestigial remains of the Wolffian duct

An epidiascopic demonstration on the Lighting of Continental Operating Theatres was given by Dr MACNAUGHTON JONES, and short communications upon cases in which a foreign body was removed from the abdomen by laparotomy were read by Dr H RUSSELL ANDREWS and Dr C F BLACKER

ELECTRO THERAPEUTICAL SECTION

The Use of Condenser Discharges in Electrical Testing

A MEETING of this section was held on Jan 17th Dr REGINALD MORTON the President being in the chair

Dr H LEWIS JONES read a paper entitled The Use of Condenser Discharges in Electrical Testing He claimed for the condenser method advantages which were destined to render obsolete the present method of testing by induction coil and continuous current discharges The points in favour of the means now described were greater rapidity, more precision it gave greater information and was far less painful to the person tested A condenser of known capacity was charged to a constant voltage and was then discharged through a muscle The electrodes were applied to the motor points in the usual way, or, when the longitudinal reaction was being ascertained to the distal tendon The production or non production of a contraction was all that was looked for , no need for judging whether it was sluggish or not He proceeded to describe the character of the wave of discharge and said it was easy to keep the charging voltage constant as well as the resistance of the patient because for these brief discharges there was no polarisation He referred appreciatively to the work of Dubois, of Berne *If to healthy muscles a series of gradually* increasing condenser discharges were used, the contractions all appeared very much alike except that the larger capacities produced stronger muscular contractions but if the same were done to damaged muscles they did not respond to the smallest capacities but would to larger capacities Therefore the process of testing with condensers consisted in ascertaining the magnitude of the least capacity required to produce a visible contraction in a given muscle The electrical testing which had hitherto been used was based upon the interrogation of the muscular contractility by applying to it the short waves of the induction coil and the long waves of the closure of the continuous current The tester had not known the wave length of either Dr Lewis Jones recommended the use of the metronome in all kinds of electrical testing , it gave an audible signal to the operator which told him when the muscular contraction should appear A range of 12 capacities was sufficient to commence with and they were arranged in series The smallest condenser he used was 0 05 micro farad, and the voltage he had chosen was 100 though other voltages could be employed He believed it would supersede the older method of testing and would probably bring out some new points of diagnostic value not at present suspected , it might also show some discrepancies from what they regarded as the settled order of muscular excitability in disease.

Dr. E. P. **Cumberbatch** gave details of the testing of a number of cases by the new method, and bore out the points established in Dr. Lewis Jones's paper.

Dr. R. S. **Woods** (London Hospital) expressed the view that Dr. Lewis Jones's method would revolutionise muscle testing. It not only made more definite the line between normal and abnormal muscle, but made possible the division of muscles formerly classed as abnormal into a graduated series.

Dr. C. F. **Bailey** (Brighton) described the usefulness of the method to indicate the rate of recovery in his own person.

The **President** offered his congratulations to Dr. Lewis Jones for the work he had done on this important subject. In the earlier days, when testing by condenser discharges was in the air, it was so hedged about by logarithms and complex formulæ that the ordinary physician was shy of employing it; therefore the greatest credit was due to Dr. Lewis Jones for the clever way in which he had rendered it practicable. The time seemed now at hand when the degree of response of muscles could be definitely graded, perhaps numbered, to the great benefit of medicine generally. Dr. Lewis Jones's method of increasing the wave length of the discharge was particularly ingenious.

Dr. **Lewis Jones** replied, and he was heartily thanked by the section.

MEDICAL SOCIETY OF LONDON.

The Rise and Possibilities of the General Practitioner-Surgeon.—The Treatment of Recent Injuries by Massage.

A meeting of this society was held on Jan. 13th, Sir W. **Watson Cheyne**, the President, being in the chair.

Mr. T. **North** read a paper on the Rise and Possibilities of the General Practitioner-Surgeon. He said that the object of the paper was to try to show the possibilities of operative surgery in general practice. He thought that they should see in the future the rise of men in general practice willing and anxious to do more than treat indigestion and coughs, who would not send every patient who had something just outside the ordinary run of diseases to the consultant or the hospital. In operative surgery in general practice he thought there was great scope for the spread of this movement. Patients who required operative treatment might be divided into three classes. First, the rich, who could afford whatever might be necessary in treatment. They would remain as before, going to those surgeons whom they knew or had heard of as being pre-eminent in the class of operation which they might require. At the other extreme there were the very poor, who would continue to receive treatment in the future, as in the past, from the hospitals. Between these two, and merging into each, not sharply defined, was a class who could afford moderate fees, or at any rate some fee for surgical treatment, and these in most places had not been able to find anyone willing to operate for fees within their reach, or, if willing, capable of doing it. He thought that this condition of affairs would soon pass, and that they would shortly find in most districts some man or men capable and willing to operate in all cases at reasonable fees. Up to the present in most cases these patients had gone to the hospitals, generally sent by their medical attendant and paying nothing. There was less trouble in many operations in looking after the patient, less time taken up in the operation itself than in dealing with many of the diseases in general practice, and the results were vastly more interesting and led to more increase of practice. When one had got into the way of operating in private the experience gained soon made for simplification of preparation and other details. As an example he mentioned an operation he had performed recently—a subtotal hysterectomy for a fibroid weighing 4½ lb., the appendix being removed at the same time. The operation itself took 50 minutes to perform, the preparation for it, say, an hour and a half. On the day of the operation he saw the patient twice; since then once a day, omitting Sunday. The wound would be dressed in a day or two, and then the work was practically done. It was well to compare this with a difficult confinement both as regards the amount of work required and the compensation for one's efforts. The question at once arose as to what extent operative procedures should be carried—where should the line be drawn as to their magnitude? This question could only be answered by the individual who undertook them and would vary with the amount of his experience and the number he got. Many of the major operations did not require any very great manipulative skill, and for the man who had held some good resident appointments after qualification, and who had not let himself rust, he did not see why there should be any limit if one excepted the more specialised operations. With the spread of cottage hospitals throughout the country and suburbs, the work of the great town hospitals ought to be freed to a great extent from those cases which could equally well be done in these smaller institutions if not in the patients' homes. The advantages of this decentralisation of work would be numerous. In the first place it would free the larger hospitals of many operative cases, it would do away with much of the uninteresting spade work of the operative consulting surgeon, it would give the general practitioner-surgeon more material, and it would relieve to some extent the overcrowding and expense of working hospitals in towns. The advantage to the consulting surgeon would be very great, as it would leave him more time to the consideration and development of original thought and procedure, which to-day with the stress of work he had to undertake must be very difficult. Another advantage to the surgeon attached to a large hospital would be that he could become a pure consultant, brought in to advise, give his opinion as to whether an operation was necessary or desirable, stiffen the opinion of the general practitioner-surgeon who called him in, and cement the confidence of the patient and his friends. Financially, he thought the surgeon would gain, as in the class of patient he was speaking of they could not pay the surgeon's operating fee, and consultations would be more frequently sought if the patients remained under the practitioner's care. As an instance he gave an experience which occurred to him last year. He had operated upon a child for the removal of tonsils and adenoids, and a few days after the throat became diphtheritic with laryngeal obstruction, for which he advised immediate tracheotomy. The parents of the child asked for a consultant to confirm his opinion that the operation was necessary, but not to operate. The consultant did, and stood by while he (Mr. North) opened the trachea. The child recovered. This was to his mind the ideal of consulting work. When operating in private houses there were difficulties to be overcome which did not arise in a well-equipped theatre. Attention to the minutest detail was much more essential, as one could not rely on being able to find a necessary instrument in the cupboard in the next room. There were few houses where one could not get a suitable room and, with the exception of the operating table, everything one required. One must have a portable operating table. The disadvantages of the surroundings were in many cases amply compensated for by not having to move the patient, and thus doing away with the increased nervous dread and the risk of moving in perhaps a very unsuitable vehicle. This in acute abdominal cases was a matter of very considerable importance. Nursing presented no difficulties except as regards expense, and this with a little management could be reduced to a minimum. For the operator himself, in addition to the greater attention to details mentioned above, there was another point of difference to that obtaining in operating in a hospital. He had to rely on the smallest amount of assistance. This was quite an advantage to the patient, and there were few operations which could not be performed with one assistant besides the anæsthetist. As regarded the operation itself there were a few points which were of interest in respect to private work. For the man who had come straight from hospital an operation in private must seem almost an impossibility. Accustomed to seeing the pomp and circumstance of a modern well-equipped theatre, surrounded by all the surgical luxuries of the age, he must feel that these things were essential, and would scorn to see amongst other things a kitchen pot or a fish-kettle taking the place of the high pressure steriliser. They served, however, very effectually at a pinch. Another criticism he would like to make with all humility was in regard to the teaching of aseptic surgery in hospitals to the more or less exclusion of antiseptics For a beginner, at any rate, or one operating under circumstances perhaps of hurry or in surroundings which were not altogether favourable, there was a liability of having aseptic precautions break down and infection take place which would not have happened if a mixed system had been adopted Moreover, the initial expense of the equipment for aseptic work was much greater, entailing a large steriliser containers &c, as one could not depend on getting ready sterilised dressings, swabs, &c, in a hurry Although sepsis was much less likely to occur when operating in private than in hospitals (and he spoke from experience in both), he did not think that for a beginner aseptic work should be attempted The amount of irritation produced by the antiseptic was amply compensated for by the increased security The preparation of the skin by the iodine method was a great saving of trouble, and after having now used it in a very considerable number of cases he had not yet found it fail As an additional safeguard for disinfecting the operator's hands before putting on the gloves he regularly used it It did not irritate the skin and readily washed off The anæsthetic was at first a trouble, but when one had been operating for some time one found a man on whom one could rely, which freed one from need of attention to anything except the operation Open ether was the anæsthetic which he now used for all ages In abdominal work the peacefulness it gave was equal to chloroform without its risks, and it did not give rise in bloody operations like Halsted's for carcinoma of the breast, to the increased hæmorrhage which the closed method did In infants it was admirable and did away with the anxiety which one always had with chloroform One of the advantages, or at times disadvantages, the general practitioner surgeon had over the consulting surgeon was that he saw the result of his work throughout, he had the patient with him before and after, knew his history and peculiarities better than one could possibly do who saw him perhaps only at the time of the operation, and he also had the advantage of observing the after results not only of his own but other's work This was very helpful in teaching one to avoid some mistakes To give an example, he saw a patient of his operated upon at a large hospital for movable kidney by a surgeon of world wide repute In the course of the operation he exposed the last dorsal nerve, and turning to the gallery explained to the students that he always cut an inch out of it as it very often gave rise to pain later A couple of months after the operation the patient came to him (Mr North) complaining that her belly behaved in a curious way when she coughed or strained On examining her and getting her to give a series of coughs the right side of the abdomen gradually distended like a football bladder, slowly returning to normal when the coughing ceased The kidney was as loose as, or looser than, before the fixation In the realm of the special surgeon one often saw results equally illuminating The opinions expressed in this paper were based on an experience of between 700 and 800 operations performed in general practice of all kinds from abdominal sections for hysterectomy, ovariotomy colotomy, appendicectomy, salpingectomy, uterine and kidney fixations, amputations of all kinds, most of the gynæcological operations, nephrolithotomy, lithotomy, prostatectomy, adenoids and tonsils, submucous resections of the septum nasi, tracheotomy, &c It might at once be said that it was easy to do and write about these things, but what were the results? The mortality for the abdominal sections was 4-6 per cent, and for the whole series 2 per cent Of the total mortality 35 per cent was in patients of 60 or over, and 28 per cent in patients under five years The most convincing result, however, was that his surgical work had gradually and progressively increased both in quantity and quality What had been said as applying to operative surgery might equally well be extended to the other branches of surgical and medical work In conclusion, might he say that in his opinion there was great scope for any man who undertook in general practice to pass outside the ordinary trammels of custom—for one who having made up his mind clearly and definitely as to a right course of surgical treatment for his patient, fearlessly to pursue that course if he felt competent, regardless of what people might say if he had as everyone must have at times a failure

Dr J B MENNELL read a paper on the Treatment of Recent Injuries by Massage

LIVERPOOL MEDICAL INSTITUTION

Cavernous Sinus Thrombosis—Suture of Crucial Ligaments of Knee—Congenital Anomalies connected with Umbilical Structures—Annual Meeting

A MEETING of this society was held on Jan 9th, Mr ROBERT JONES the President, being in the chair

Mr C A ADAIR DIGHTON read a short paper on Cavernous Sinus Thrombosis, with a report of two cases He alluded to the anatomy of the cavernous sinuses and the chief symptoms that had been found to characterise thrombosis His first case was that of a girl, aged 13 who had had a mastoid abscess on the right side After the radical operation on the mastoid the girl did well for a week Then her temperature ran up, she had rigors with exophthalmos drooping of the eyelids with haziness of the cornea, and optic neuritis The right internal jugular vein was ligatured close to the clavicle and dissected up to the mastoid The lateral sinus was exposed, curetted, and a current of fluid passed through it Polyvalent serum was administered She made a good recovery after showing signs of septic synovitis in several joints The second case was that of a boy, aged 6 In this case the trouble arose from the nasal region, the right orbit being affected The superior bony wall of the orbit was removed, the frontal lobe elevated, the cavernous sinus curetted, and a rubber drain introduced The child died from acute meningitis

Mr R E KELLY showed a case in which he had Sutured the Crucial Ligaments of the Right Knee joint in a carter, aged 33 years, with excellent results The man had been kicked on the outer side of the knee while the joint was extended, a portion of the skin on the inner side being caught as a fold between the ends of the tibia and femur There was extreme mobility of the joint It could be dislocated backwards and replaced easily The leg was put up in a Thomas's knee splint for five days Then Mr Kelly opened the joint by a long horizontal incision The crucial ligaments and the internal lateral ligament were sutured with 30 day catgut The wound was closed and the leg kept at rest on a Thomas's splint for three months—The PRESIDENT congratulated Mr Kelly on the results and said he had seen several cases where this injury had occurred recover without operation if fixed on a splint at once—Mr W RUSHTON PARKER also thought that, though the result justified the operation in this case, in most cases immediate fixation was the most important point in treatment—Mr G C E SIMPSON related a case where he had started treatment four months after the injury, with the result that after six months of splint treatment there was still a flail joint

Mr SIMPSON read a paper on Congenital Anomalies connected with Umbilical Structures These included abnormalities due to relics of the vitelline duct, relics of the allantois, and faulty closure of the lateral folds of the embryo Three recent cases of laparotomy for congenital exomphalos were related In one case the major part of the liver was included in the sac The other two cases were successful In two cases of ectopia the trigone of the
bladder had bee portion of the
large intestine r four months
dying then from m the shock of
the operation were discussed
and a case of urachal umbilical polypus was described Cases of umbilical polypi due to abnormalities of the vitelline duct were considered Four had been treated with success The results of a Meckel's diverticulum were illustrated in various forms The paper was illustrated by slides and specimens

At the annual meeting held on Jan 16th the following office bearers and members of Council were elected Those marked with an asterisk did not hold the same office last year—President Robert Jones, Vice Presidents *Thomas Bushby, *W B Warrington, C J Macalister, and J Lloyd Roberts, Treasurer, R J Hamilton, General Secretary, *Frank Hugh Barendt, Secretary of Ordinary Meetings, Alexander Stookes, Secretary of Pathological Meetings, W Blair Bell, Librarian, *Nathan Raw, Editor of the Journal, John Hay, Council, T R Bradshaw F B Grimsdale, Edward W Hope, W S Henderson, N Percy Marsh C E Solomon *R E Harcourt, *M T Stack *A W Riddell, *D Moore Alexander, *J A Howard and *W B Bennett, Auditors W S Henderson and *A P Hope Simpson

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

An Endemic Febrile Illness.—Bone and Joint Tuberculosis.

A meeting of this society was held on Jan. 15th, Mr. J. M. Cotterill, the President, being in the chair.

Dr. Charles McNeil and Dr. J. P. McGowan communicated a paper on Endemic Febrile Illness, with Acutely Fatal Cases, occurring in a Boys' Industrial School, in which they described outbreaks of peculiar illness in an industrial school near Edinburgh that they had investigated. These had occurred over a period of ten years, and while prevailing in the colder seasons had also happened in summer. Evidence of contagion of the disease from boy to boy was wanting, and the officials of the schools had shown a complete immunity from the attacks. The illnesses assumed three clinical types: acute cases terminating fatally in a few hours, of which 20 cases were collected in all; irregular and apparently lobular pneumonia—total 51 cases; simple febrile illness—total 175 cases. The evidence that these types were variations of a single morbid entity—an irregular pneumonia—was that the three types occurred together in groups; that in their manner of onset and clinical course similar symptoms were shown; that cough and spit, though frequently absent, were present in a few cases of all three types; and that the sputum, when examined, always showed pneumococci. Post-mortem evidence, by showing either acute congestion or irregular consolidation of the lungs, confirmed this suggestion of irregular pneumonia. In explanation of the unusual prevalence and the irregular types of pneumonia in the school, the authors advanced the hypothesis that this might be due to an abnormal constitution or diathesis pre-existent in the boys. Some proof of this was found at certain of the necropsies in the enlargement of the thymus and other lymphoid tissues of the alimentary tract—the appearances of status lymphaticus. The hypothesis, therefore, was that some morbid diathesis had been present on a large scale and over a long period in the school, and that in the acutely fatal cases it corresponded to that of status lymphaticus. They did not attempt any explanation of the real nature of this morbid diathesis, nor were they clear as to what caused it. The probability lay in some defective conditions of environment, and at the school the boys, in their opinion, were unduly exposed to cold and were also overcrowded.—Dr. John Green said that he had charge of the institution when the first fatal case occurred. He noted that if the temperature of the patient went above 102° F. death invariably followed. The only means they had found of preventing the epidemic was to put the boys out under canvas. Only strong boys succumbed, and two of the strongest boys who were employed in carrying out the beds to the tents succumbed the next day. Puny boys always recovered.—Mr. Henry Wade thought that the boys died from a pneumococcus septicæmia. He had isolated such organisms from the brain, epicardium, and blood of fatal cases. He thought that the inmates of such homes resembled wild animals in the free, open life which they had led previous to their reception in the institution, and like wild animals in confinement they frequently died suddenly. He did not think there was much evidence of status lymphaticus in the cases.—Professor H. Harvey Littlejohn said that status lymphaticus was not a cause of death, but that it led to death very easily from other causes. In his own experience he often found this condition present, though it might not be possible to find the real cause of death. In infants, however, he was of opinion that status lymphaticus produced death. An enlarged thymus gland pressed on important organs, and thus the heart might be injuriously compressed. This might account for the statements which mothers frequently made as to the child turning blue in the face. Individuals with status lymphaticus always appeared well nourished, but this indicated not a real but only an apparent strength. He was of opinion that in such institutions generally they did not find that robust state of health which they might expect to be present in the inmates.

Dr. Alexander Goodall and Dr. R. W. Johnstone also took part in the discussion.—Dr. McNeil, in his reply, stated that there were about 300 of such industrial schools throughout the country, all maintaining the same class of boys, yet only a few of such schools showed these epidemics.

Mr. John Fraser read a paper on Bone and Joint Tuberculosis, in which he summarised his remarks under (*a*) etiology, (*b*) pathology, and (*c*) treatment. (*a*) *Etiology:* The essential etiological factor, he said, was the lodgment of the tubercle bacillus, but this was intimately related with two secondary considerations of even greater importance, (1) the type of the causative bacillus; and (2) the route by which it reached its site of development. 1. As to the type of bacillus, from the point of view of pathology, and more especially from the clinical aspect, the human and bovine types of tubercle bacilli claimed attention. The routes by which the bovine bacillus attacked the human body might be limited to one, the alimentary tract. This tract was infected by ingestion of infected material, chiefly milk; therefore the question of milk infection was at the bottom of the seeking after knowledge in regard to this type of bacillus in bone and joint tubercle. Five possible tests to differentiate between human and bovine bacilli were recognised. (*a*) The rapidity of growth upon mediums, Tubercle bacilli might be grown upon various media, a very suitable one being inspissated egg. In comparing cultures of the human and bovine organisms the human bacillus would have grown at the end of a common period more luxuriantly and profusely than the bovine. But this was by no means an absolute test. In many cases the organism grew neither profusely nor scantily. (*b*) The second test was based upon another peculiarity in growth. Glycerine had a depressing effect upon the growth of the bovine bacillus, but stimulated the development of the human bacillus. If a doubtful bacillus was grown on a medium of egg and glycerine, a profuse growth meant the human type, a scanty growth or none the bovine. But this test also was by no means absolute, for a similar reason as before. (*c*) The morphological character of groups of tubercle bacilli, long bacilli being considered to be human, short squat bacilli bovine. For all practical purposes this test was useless, but to one morphological characteristic some degree of distinctive quality must be attributed—viz., the characteristic of nodule staining. Certain bacilli when stained with a modification of Erain's *stain* (Meule's method) showed dark nodules resembling spores. Such bacilli were almost certainly human, though all bacilli which did not show them were not necessarily bovine. (*d*) In Theobald Smith's test a medium was used consisting of bouillon and glycerine of a known slight acidity, upon which the bacilli were grown. During growth certain changes became apparent in the acidity of the medium. Progressive increase in acidity was taken to indicate the human type; diminished acidity, or even alkalinity, the bovine. (*e*) *The inoculation test* was one about which there was no doubt; its execution was easy; the result absolute. It depended on the susceptibility of the bovine species to infection with the bovine bacillus. For economic reasons rabbits were more suitable than calves. A full-grown rabbit was injected intravenously with a small known quantity (0·01 mgm.) of tubercle bacilli. The rabbit might show no ill effects, its weight might increase or remain constant, and if it was killed, say, six months later, the only evidence of tubercle found would be a fine epithelial pellicle in the lungs. Or the inoculation might be followed by rapid loss in weight, increasing cachexia, and death within six weeks, post-mortem examination then showing a generalised and rapid tuberculosis. In a series of nearly 100 cases thus examined the author had found that 62 per cent. owed their origin to the bovine bacillus. These cases have been drawn entirely from Edinburgh and its neighbourhood, and gave serious food for thought, for they could mean only one thing, a milk supplying infection to a highly dangerous degree. With regard to cases due to the human bacillus, in every case an inquiry was instituted into the question of tuberculosis among other members of the family, and it was found that in 71 per cent. there was a history of tuberculosis—usually pulmonary—in the family. The practical lesson to be drawn was the importance of isolating pulmonary tuberculosis. 2. Routes of infection. Bones and joints were rarely the site of the primary development of tubercle, when attacked it was secondary to some more distant infection, the vehicle of infection being the blood or the lymph stream There had been much controversy whether the bone or the joint was the first to become infected Experiment would appear to prove, first that it was difficult, often impossible, to infect the cavity of a healthy bone with tubercle the resistance of the marrow being too great and the bacilli becoming almost invariably destroyed Secondly, that the joints were readily infected through the blood stream the anastomosis of the circulus vasculosus in the fringes of the synovial membrane being more exactly the situation in which the disease begins Clinically, an osseous tubercle did occur, and the explanation was that while tubercle bacilli could not develop in a healthy marrow, when the marrow was altered disease might arise The change in the marrow was a gelatinous degeneration—a disappearance of the true marrow cells and a proliferation of the fibro myxomatous groundwork In a marrow so altered tuberculous disease readily developed This change was the result of an endarteritis and thickening of the vessels, nutrient or metaphysial, and a resulting interference with nutrition affecting respectively the diaphysis or the epiphysis The vascular thickening was due to the circulation of the tuberculous toxin The thickening of the nutrient artery might be secondary to tubercle anywhere, that of the metaphysial vessels usually arose from a focus of tubercle in the neighbouring synovial membrane Our experimental knowledge therefore of the etiology of bone tubercle indicated that synovial tubercle was readily produced and the synovial membrane was infected by the blood stream Healthy bone could not be infected with tubercle, its marrow must first undergo a gelatinous or fibro myxomatous degeneration, such as was occasioned by tuberculous endarteritis of the vessels nutrient or metaphysial, supplying the bone (b) *Pathology* —The disease might begin in the centre of the diaphysis or at the articular ends, in the epiphysis or at the metaphysis, depending on the site of the reflection of the synovial membrane—i e, whether the reflection lay only in relation to the epiphysis or extended beyond it to the metaphysis *Changes resulting from the lodgment of the bacilli* —The bacilli were probably originally deposited by a small extravasation of blood from a thin walled vessel such as occurs in a slight sprain There the bacilli developed forming a small tuberculous follicle, with giant cells epithelioid cells and lymphocytes It was important to emphasise that the primary lesion was a true follicle developing in the marrow As the follicle enlarged others appeared around it, forming a mass of appreciable size possibly apparent to the naked eye as a tiny white spot in the red marrow Coincidently caseation appeared at the centre an attempt at fibrosis and localisation at the periphery of the follicle If the central change preponderated the caseation extended rapidly throughout the marrow and ' infiltrating tubercle resulted, if the peripheral change the disease remained localised causing encysted tubercle But independent of the growth of the follicle coincident changes appeared in (1) the marrow, (2) the bone lamellæ (3) the periosteum and (4) the blood vessels and from these changes many of the clinical appearances gained their characteristic features The author proceeded to describe these changes at some length The marrow changes were a cellular reaction followed by a limiting fibrosis The lamellar changes consisted of absorption by osteoclasts or of surrounding hyperostosis by osteoblasts at a distance The periosteal changes were a subperiosteal limiting deposit of light cancellous bone The vascular changes were of the nature of endarteritis obliterans The best classification of the disease designated the various types by the most characteristic changes namely (a) *an encysted type* in which the disease remained localised, (b) *an infiltrating type*, in which it tended rapidly to spread throughout the lamellæ, (c) *a hypertrophic type*, in which the distinguishing feature was an overgrowth of bone, (d) *an atrophic type* in which a rarefactive process was most evident In regard to treatment there were two special points the author wished to bring out as they were more or less original First that the usual conservative treatment is absolute rest of the affected part Of the many materials used to ensure rest the ideal material must be light, well fitting, comfortable, and yet rigid Such a material was to be found in celloidin or pyroxylin or celluloid Batten (The Lancet, July 13th 1912) recommended celluloid splints in the treatment of infantile paralysis, they could be equally well used in bone or joint tubercle except in the hip, shoulder, or spine where they were precluded by the size and extent A special advantage was that they could be taken off and the part massaged a practice that had not hitherto received sufficient attention Secondly, the employment of a type of autogenous vaccine Bone tubercle was arrested and ultimately cured by a surrounding fibrosis which depended on the action of a specific element contained in the tissues which he believed would be present if the vaccine were prepared as follows A portion of the actual diseased tissue was ground up, the supernatant fluid was centrifuged and filtered sterilised by heating to a temperature of 50° C for one hour, and standardised by measurement (5 c c &c) Such a vaccine contained not only the toxin of the bacilli and the other bodies usually present, but also the special fibrous tissue forming element which he believed to be so important Clinically, its use had given excellent results —Mr Harold J Stiles said that infection of bone occurred very easily in children At first one got a toxæmia of tubercle from some other part of the body—e g glands This toxæmia produced endarteritis Tubercle began very rarely in the epiphysis itself, this was almost invariably secondary to joint disease Diaphysial tuberculosis was most frequent Was it infected secondarily to the joint or was it primary? He said that Mr Fraser had demonstrated and established the fact that 62 per cent of bone and joint tubercle was of bovine origin There was no question as to the human origin Another worker in Edinburgh (Dr K. Mitchell) had shown that 90 per cent of cervical gland tuberculosis was of bovine origin and these infections were due to tuberculous milk so that legislation as to the milk supply was necessary In Edinburgh with its more than 2000 cows, one inspector was required to do the duties while in the country there was no inspection whatever Even when a cow was found with a tuberculous udder there was no power to order its slaughter There was more tuberculosis in Scotland than in England and Ireland because more milk was drunk in this country Ayrshire cows were most frequently employed as milk givers because of their large yield, and in that breed tuberculosis was most prevalent

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Leeds and West Riding Medico Chirurgical Society —A meeting of this society was held on Jan 17th Dr J Dobson the President being in the chair —Mr Alexander Sharp showed a number of skiagrams of the Mastoid Area A bismuth plug had been placed in the external auditory meatus before sending the patient to the radiographer A very distinct outline of the canal appeared on the negative This formed a useful guide to the mastoid antrum lateral sinus &c, and simplified the interpretation of the plate In some cases it might be more useful to smear the drum head only with the bismuth paste —Mr G C Hayes showed a case in which there had been a five months history of œsophageal obstruction A diagnosis of œsophageal epithelioma was made and this was confirmed by the œsophagoscope An operation had been performed by Mr J F Dobson and the growth which was an extensive one, successfully removed the upper end of the cut œsophagus being sutured to the skin The specimen was also shown —Mr Dobson also exhibited some cases showing the advantage of block dissection in the removal of cervical glands for malignant disease —Cases were also shown by Dr C Wilfred Vining, Dr A Bronner Mr Walter Thompson Mr J Basil Hall Mr H Littlewood Dr W H Maxwell Telling Dr T Wardrop Griffith and Mr Carlton Oldfield —A paper was read by Mr Oldfield on Obstetric Surgery its Uses and Limitations He discussed the treatment of eclampsia comparing the surgical methods of simple induction of labour, and of vaginal and abdominal Cæsarean section with expectant and therapeutic measures Pernicious vomiting of pregnancy he regarded as a neurosis and advocated treatment by full feeding and suggestion As a rule surgical interference was not indicated in this condition nor was it in fibroid tumours or in pyelitis complicating pregnancy The necessity in some cases for cranioclasty and decapitation was deplored The need for these could usually be avoided by examination during pregnancy, when Cæsarean section would be indicated.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 8th, Dr. Walter C. Swayne, the President, being in the chair.—Dr. J. A. Nixon gave a demonstration on the Technique of the Intravenous Administration of Neo-salvarsan. He stated that it was necessary in syphilis to give doses at intervals of a week or less until Wassermann's reaction had become negative, and remained so for at least four weeks, four or five doses being usually required.—Dr. C. W. J. Brasher, in a paper on Intermittent Swelling of the Parotid Gland, related the case of an adult female who had had attacks of acute parotid swelling at intervals for more than ten years. A vaccine of the micrococcus catarrhalis grown from the interior of Stenson's duct gave a year of freedom from attacks, but the condition had since recurred.—Dr. J. O. Symes said that he had seen a boy with bilateral parotid swelling occurring every evening for some weeks following an attack of mumps.—Dr. Carey Coombs said that he had seen a similar condition affecting the submaxillary glands.—Dr. R. S. S. Statham showed a specimen of Primary Rupture of the Pregnant Uterus before Labour. When the patient, who was eight months pregnant, was first seen she was thought to be a case of concealed accidental hæmorrhage, but a laparotomy revealed an extensive rupture of the uterus and the child free in the peritoneal cavity. She had been curetted a year previously for a septic abortion, and no other cause could be found.—Dr. F. H. Edgeworth related a case in which phosphaturia and oxaluria alternated, the latter condition being accompanied by renal colic and hæmaturia. The condition was cured by more complete mastication, the patient having previously bolted his food.—Dr. Brasher had also a case of oxaluria accompanied by hæmaturia and renal colic.

Reviews and Notices of Books.

X Ray Diagnosis and Treatment. By W. J. S. BYTHELL, B.A. Cantab., M.D. Vict., Honorary Physician to the Ancoats Hospital, Manchester; and A. E. BARCLAY, M.D. Cantab., M.R.C.S. Eng., Medical Officer to the Electrical and X Ray Departments, Manchester Royal Infirmary. With 118 illustrations. London: Hodder and Stoughton. 1912. Pp. 139. Price 15*s*.

OF the many books on X ray work we have had occasion to peruse we do not remember one that has so many pleasing features as that now under consideration. It would seem to have been the authors' constant care to say no more than it was necessary to say on any particular point, and to say it in the most clear and concise way. As the book does not pretend to teach the technique of radiology, we are spared a hundred or more pages of material that can be usually found in any text-book of physics and in an instrument maker's catalogue. The authors have drawn upon a large experience of their own, and confine their observations to that almost entirely, and there is never any difficulty in ascertaining their views regarding debatable matters. Another good feature is formed by the illustrations. These are all from striking plates made by the authors, are well reproduced, and conveniently placed in groups at the end of each chapter. On the subject of fractures the limitations of the value of a screen examination are emphasised. In a large proportion of cases only a plate of good quality can make the situation clear, and nothing less than this is admissible when the question of readjustment of the fragments by operative procedure arises.

X ray diagnosis in connexion with diseases of the bones and joints is thoroughly well dealt with. The loss of opacity that accompanies most bone diseases—notably tuberculosis—is well shown in the excellent skiagrams that illustrate this chapter. Wisely, we think, a special chapter has been devoted to the examination of the bones and joints in children. In no branch of radiography is a greater experience necessary than in the interpretation of plates made during the growing period, whether for accident or disease. The authors have done much to help in clearing the difficulties that surround this important subject.

Turning to the section of internal medicine there is a very useful chapter on the examination of the thorax. It is pointed out that it is in the more obscure cases that the aid of the X ray is desired, especially in the earlier stages. Phthisis is, of course, the most common condition that requires every available aid to assist the diagnosis. Defective lighting up of dark or mottled areas, restricted movement of the diaphragm, enlarged bronchial glands near the root of the lungs, are among the important signs that can be made out only by this method, and they go far to determine the nature of the case under investigation. This chapter is a valuable one. Dr. Barclay's work on the examination of the stomach and intestines is well known both at home and abroad, and we are fortunate in having his ideas so clearly and concisely stated in the chapter on the examination of the abdomen. In a sound chapter on the urinary system, we note that the authors state that in the examination for stone the error need not exceed 1 per cent. The therapeutic applications of the X rays are referred to in one short chapter, and there is a brief appendix on X ray apparatus and technique.

This book is meant for medical men generally, who wish to know how far the X rays may be of assistance in any case that appears likely to be benefited thereby. They need have no fear of being inundated with a lot of technical detail of no special interest to themselves. They will find every page interesting and easy to understand, and so great is the importance of radiology in modern medicine and surgery that many of our readers must be seeking just this work.

Practical Anatomy: an Exposition of the Facts of Gross Anatomy from the Topographical Standpoint and a Guide to the Dissection of the Human Body. By JOHN C. HEISLER, M.D., Professor of Anatomy in the Medico-Chirurgical College of Philadelphia. With 366 illustrations, of which 225 are coloured. London and Philadelphia: J. B. Lippincott Company. 1912. Pp. 790. Price 21*s*. net.

THIS work gives in one volume a full and fully illustrated account of the dissection of the entire body. It is doubtful if it is the wisest policy to issue a dissecting manual in a single volume, for it is necessary that the one book should be in constant use in the dissecting-room throughout the whole course of practical anatomy. The illustrations are all by Mr. E. F. Faber, and some are already familiar as figures in Piersol's Anatomy; some, however, are drawn especially for this volume. Mr. Faber's work is admirable, but in some instances the colour printing has hardly done him justice, for many of the figures show a bad overlap of colour. It would seem a mistake to colour the vas in Fig. 300 exactly like the veins, and so give the appearance of an anastomosis between the two structures. Some slight criticism must also be made concerning the index lines to the illustrations; Fig. 41, "ant. circumflex vein," is an instance. It is possible that individual copies vary somewhat, but in the one submitted for review this line appears to end on the brachial artery, and no vein seems to be indicated at this spot.

It was rather a surprise to us to see that a new work published in America did not embrace the B.N.A. terminology in its entirety, but the author's reasons for this are given clearly in his preface, and with these reasons we are in perfect accord. One piece of terminology has attracted our attention. The prominence over the joint between the manubrium and gladiolus of the sternum is named throughout as the angle of Lewis. The best warranted eponymous term for this angle seems to be the angulus Ludovici, which is usually anglicised as the angle of Louis, or occasionally by confusion the angle of Ludwig. We do not know to what anatomist named Lewis the author ascribes this term.

The book is well and carefully written, and many classical mistakes are avoided; we think, however, that the popularity of the book will be handicapped by the fact that several of the old strained positions are still retained for dissecting. With formalin as our stock preservative, it has seemed useless to continue the lithotomy position which is here advocated; the damage done to the hardened tissues is too great a price to pay for the retention of what is after all merely a traditional piece of surgical anatomy.

Preventable Cancer. A Statistical Research by ROLLO RUSSELL. London, New York, Bombay, and Calcutta: Longmans, Green, and Co. 1912. Pp. 167. Price 4*s.* 6*d.* net.

THE subject of the cause of cancer has an immense fascination for many, both of the medical profession and others. Mr. Rollo Russell some time ago wrote a book on the "Reduction of Cancer," and in the present volume he has put together many facts bearing on the question of the cause of malignant disease, supporting his opinion by statistics, which he has collected from a very wide area. The statistics relate to the distribution of cancer geographically, to the increase of cancer during recent years, and to its occurrence in various occupations and trades. Mr. Russell has arrived at the following conclusions. Cancer shows a graduated increase from extreme rarity to great frequency, according to the habits of nations, races, and tribes. Apart from exceptional customs, it scarcely exists among peoples and in districts and countries where the diet is natural, cool, and frugal, without irritating or stimulant adjuncts. The use of water as the staple drink is of effect in immunity. The increase of recent years corresponds with the regular and very large increase in the consumption of stimulant meats and drinks, of hot foods and drinks, and with the increased consumption of adjuncts of many sorts, including unwholesome forms of sugar, pickles, drugs, and preservatives. The author has evidently taken a great deal of trouble in preparing this little book. He has succeeded in showing, what has been shown so often before, that local irritation is an important factor in the production of cancer.

Handbuch der Vergleichenden Physiologie. Von HANS WINTERSTEIN in Rostock. Lieferung 25. Band I. Zweite Hälfte. Bogen 11–20. Pp. 161–320. Price 5 marks.—Lieferung 26. Band III. Erste Hälfte. Bogen 11–20. Pp. 161–320. Price 5 marks.—Lieferung 27. Band III. Erste Hälfte. Bogen 21–30. Pp. 321–484. Price 5 marks.—Lieferung 28. Band IV. Bogen 53–61. Pp. 841–976. Price 5 marks. Jena: G. Fischer. 1912.

IN the 25th Lieferung the editor, Professor Winterstein, continues his account of the Physico-chemical Phenomena of Respiration, in which those who wish for data collected from all the available sources will find what they seek. The remainder of the text is devoted to the Mechanics and Innervation of Respiration, which is entrusted to E. Babák, of Prague. The author, however, deals only with the subject from protozoa to the holothurids, so that students of respiration in the higher groups must wait for the continuation of the author's compilation.

In the 26th Lieferung R. du Bois-Reymond continues his account of the Physiology of Movement (see THE LANCET, March 2nd, 1912, p. 587). It is particularly interesting, as the author brings together an immense number of facts which an investigator would not readily find. The latter half of this part is devoted to the Production of Noises and Tones, by O. Weiss. No wonder the author refers to the impossibility of including all the observations. He begins with noises and notes produced by the arthropoda, and then deals with similar phenomena amongst the vertebrata. When Professor Weiss finishes his subject, two pages are left, and on the first of these Professor Biedermann, of Jena, begins a masterly and exhaustive contribution on the Physiology of the Supporting and Skeletal Substances, which occupies the whole of the 27th part. Even at the end of this part the author still finds himself dealing with the protozoa. This may give some idea of the thoroughness and completeness aimed at by the author.

The whole of the 28th Lieferung is assigned to Hearing and the Sense of Equilibrium, by E. Mangold, of Freiburg i. Br., who gives an admirable account of a difficult subject, requiring on the part of the reader a wide knowledge especially of invertebrate zoology. We find much to commend in the grouping of the extraordinary range of facts which the author has accumulated, the largest number of which has reference to the invertebrates. These functions in vertebrates are treated less fully.

Surgery of Deformities of the Face. By JOHN B. ROBERTS, A.M., M.D., Professor of Surgery in the Philadelphia Polyclinic, Surgeon to the Methodist Hospital, &c. Illustrated with 273 figures. London: Baillière, Tindall, and Cox. 1912. Pp. 273. Price 12*s.* 6*d* net.

SOME 12 years ago, when Dr. J. B. Roberts was appointed by the College of Physicians of Philadelphia to deliver the Mutter lectures, he took as his subject the plastic surgery of the face, and this book had its origin in those lectures. Although several excellent treatises on plastic surgery have appeared, there is still a marked tendency to underrate this important branch of surgery. The author of this work has written a very useful guide to the treatment of the deformities of the face, whether they are congenital in origin or have resulted from injury or disease. He has introduced the subject by a careful study of the face, for the surgeon who would become skilled in the plastic surgery of the face must first of all know the minute details of the face on which expression depends. Unless attention is paid to these details a certain degree of failure is always liable to follow attempts to rectify a deformity. The general principles of plastic surgery are explained, and then in turn the author takes the various lesions of the face and shows how they may be treated. A chapter on cleft palate is included. We are inclined to speak favourably of a practical book.

Pathology of the Eye. By P. H. ADAMS, M.A., M.B., D.O. Oxon., F.R.C.S. Eng., Consulting Ophthalmic Surgeon to the Radcliffe Infirmary, Surgeon to Oxford Eye Hospital. London: Henry Frowde, Oxford University Press, and Hodder and Stoughton. 1912. Pp. 194. Price 5*s.* net.

THIS book is a bold attempt to compress an account of the pathology of the eye, including bacteriology and practical methods, into 188 small pages of large print, the bolder in that many of the pages are almost completely occupied by illustrations. It cannot be said that Mr. Adams has succeeded. There are many lacunæ, much scrappy information, and some insistence upon views not generally accepted. For the most part, however, the information given is trustworthy, and the faults are chiefly faults of omission. A preliminary chapter deals with practical methods of embedding, and so on. (We do not agree with putting the bisected eye, after washing from formalin, into 70 per cent. alcohol.) The usual anatomical divisions are followed in the next eight chapters. Then come glaucoma, general diseases affecting the eye, and bacteriology. There are many references to recent work. Thus Thomson Henderson and Arthur Thomson's theories of glaucoma are discussed. The author pins his faith to the latter, though we think that many ophthalmologists will not agree with him. Further, the relatively large space devoted to Henderson's views might have been better employed in an elementary book for students, who will be unable to appreciate the difficulties of his theory without a previous discussion of the physiology of the intraocular pressure, and that we have been unable to find. The illustrations are from original photographs and are good.

Allgemeine Biologie. Von OSCAR HERTWIG, Direktor des Anatomisch - Biologischen *Instituts* der *Universität* Berlin. Vierte umgearbeitete und erweiterte Auflage. Mit 478 teilsfarbigen Abbildungen im Text. Jena: Gustav Fischer. 1912. Pp. 787. Price, paper, 19.50 marks; bound, 22 marks.

ONLY three years have elapsed since the third edition of this work was published. This, the fourth, has undergone considerable changes. The text has been here and there curtailed, but over 60 pages have been added, while the number of illustrations has been increased from 435 to 478. In order to bring the text up to date certain chapters have been expanded, such as those on the action of the β and γ rays on ova and spermatozoa; and those on the survival of tissues, and on the *in vitro* methods used, more especially by American investigators, to keep alive tissues removed from the body. The new facts about chondriosomes, dimorphism of spermatozoa, heterochromosomes, hormones, and secondary sexual characters and the doctrine of heredity have all been added to. Otherwise the general arrangement is the same.

The classification of the book as a whole is simple. The first part deals with the cell as an independent organism, and runs to about 450 pages; while the second part, the cell in union with other cells, occupies the rest of the volume. In connexion with the newer facts regarding the structure of the cell protoplasm, we would draw attention to the full account of those small, well-defined granules or shorter or larger thread-like bodies described by Benda and Meves in both animal and vegetable cells known as "chondriosomes" and "mitochondrian." Exactly in this direction great advances have been made recently. Moreover, the notes on this subject—as on all the other subjects set forth in this work—are illustrated by clear, well-printed illustrations in the text. In fact, the high quality of the illustrations is a striking feature throughout.

Histology and function, growth and repair, are considered together, so that we obtain a true biological conception of cell life and not merely a treatise on cytology, which is apt to become a rather sterile pursuit when treated solely from the morphological aspect. We do not find any material changes in the chapters on excitability and stimuli. The whole question of the development and the mechanism of division of cells is obviously expounded *con amore*, and, be it added, from an overflowing knowledge of those recondite processes as they occur in both plant and animal cells. About 80 pages are occupied with this subject alone, and nearly 100 pages are assigned to the phenomena of impregnation and fertilisation of cells, ranging through all classes of animals and plants. Parthenogenesis—both natural and artificial—is fully described, while due attention is given to Loeb's experiments on this and allied subjects. At the end of the first part the literature relative to each chapter is given seriatim and amounts to 20 pages of closely printed matter, and the same arrangement is adopted for Part II. (about 18 pages).

The second part is perhaps more interesting than the first, because there enters the question of the interaction of cells and all that this foreshadows. If the reader will turn to the excellent exposition of Weismann's germ plasm theory and to the chapters on the theory of biogenesis, he will find an admirable exposition of these abstruse subjects. Many illuminating pages are devoted to the external factors concerned in organic development"; in fact, the author out of the fulness of his knowledge makes us feel how few really know much about the subject. With equal facility he discourses on the inner or internal factors of organic development. We can merely refer to the thoroughness displayed in dealing with the facts, theories, and doctrines that surround the question of heredity, and the other score of questions that are treated in the remainder of the volume.

We offer to the author our thanks for the manner in which he has marshalled and expounded that immense—shall we say "kolossal"?—array of facts which for the present goes to make up what is called "general biology," a department of "natural science" to which he himself and his forebears made very material and extensive contributions.

Einführung in die Physiologie, Pathologie, und Hygiene der menschlichen Stimme. Von Dr. ERNST BARTH. Mit 260 Abbildungen und 2 farbigen Tafeln. Leipzig: Georg Thieme. Pp. 507. Price 15 marks.

THIS work, as its title would suggest, is divided into three parts. The first 317 pages are devoted to the physiology of the voice, and constitute, perhaps, the more important part. By way of illustrating the thorough and exhaustive nature of this section, it may be mentioned that not only the anatomy of the larynx is described, but that of the organ of hearing is also dealt with. The second part is given up to the pathology of the voice, and in about 124 pages one finds what is essentially a treatise on diseases of the larynx. The remaining 60 pages cover the hygiene of the voice, which includes the physiological importance of athletics upon the voice.

The book throughout is profusely illustrated, and contains a good index, which adds to its value as a work of reference. It is not only a demonstration of the affections of the voice, but also a treatise on the scientific investigation and treatment of the same. Although there has been no dearth of publications on this subject, those interested in it can undoubtedly turn to Dr. Ernst Barth's treatise with advantage.

The Treatment of Short Sight. By Professor Dr. J. HIRSCHBERG, Geheimmedicinalrath in Berlin. Translated by G. LINDSAY JOHNSON, M.D. Cantab., F.R.C.S. Eng. With 12 illustrations. London: Rebman, Limited. 1912. Pp. 123. Price 5*s.* net.

THIS brochure is an essay on short sight founded upon a lecture delivered in Berlin at the request of Professor von Leyden. It is a very sound presentation of the subject, characterised by scintillations of Professor Hirschberg's archæological and philological erudition, and permeated throughout by his forceful personality.

The essay begins with Galen and ends with Hirschberg, and in the 120 pages everything pertaining to myopia—history, optics, pathology, treatment—seem to be compressed. The style is stimulating, if at times irritating; but even where most dogmatic or most uncompromisingly critical of the teaching and treatment of other ophthalmologists there is generally sound wisdom at the foundation. Indeed, Professor Hirschberg's teaching is orthodox to a degree, and his strictures and sarcasms are poured out upon the ill-judged methods of enthusiasts. Thus, most surgeons will agree that in myopic detachment of the retina "the facts speak loud and clearly, the theories are debatable, the treatment risky, the cure rare." The author discusses the treatment of high myopia by extraction of the lens in a manner which will commend itself to those of a judicial mind His opposition to the operation appears to have increased with increasing experience He says. "From the close of 1893 to the commencement of 1901, I have relieved 24 persons in all from high myopia" by this method; and he adds in a note "Since then none! The more bad results I met with among the operations of my colleagues, the more did my hesitation increase'

But these are debatable points, and most of the essay deals with straightforward facts The descriptions of the causes of short sight, the damage done to various parts of the eye, preventive measures, and so on, are quite admirable, and the amount of useful information conveyed in a short space is truly remarkable Readers will be instructed and at the same time entertained by a perusal of the book The translator, the printer, and the publisher have done their parts well

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Handbuch der Serumtherapie und Serumdiagnostik in der Veterinar Medizin Herausgegeben von Dr M KLIMMER Ord Professor, Direktor des hygienischen Instituts und der Seuchenversuchsanstalt an der tierarztlichen Hochschule in Dresden, und Dr A WOLFF-EISNER, Arzt fur innere Krankheiten und Vorsteher der bakteriologischen Abteilung des städtischen allgemeinen Krankenhauses Friedrichshain-Berlin Band II vom Handbuch der Serumtherapie Leipzig Dr Werner Klinkhardt 1912 Pp 500 Price, paper, 18 marks, bound, 20 marks

IN this text book edited and partly written by the above named authors assisted by 20 collaborators, three full page plates illustrate respectively the eye reactions in a tuberculous cow and a glandered horse, and the local reaction in a glandered horse from subcutaneous mallein injection

As is usual in German publications of the nature under notice protective and curative inoculations against hog cholera swine fever, and swine erysipelas receive full consideration, and they occupy the position of precedence in this book Writing from a general point of view, it may be stated that the inoculations, both preventive and curative, seem to be much more successful in the case of swine erysipelas than in those of the other two diseases Inoculations against anthrax and symptomatic anthrax (black quarter) are discussed in 20 pages of the text The chapter on protective and curative inoculation against foot and-mouth disease does not seem very practical to us, and no notice appears to have been taken of Dr Siegler's recently reported discovery

In testing cattle with tuberculin the temperature is to be taken, according to the author, every two hours from the sixth to the twenty second hour until the "critical" temperature is reached, and in animals where the temperature reaction is delayed and the "critical" temperature not yet reached observation must be conducted until the latter occurs or a decline of temperature is evident The trials with "abortin" undertaken by the English Abortion Commission are given in detail, but apparently, notwithstanding the favourable view of the results given, no further investigation has been undertaken in German circles The serum and vaccine treatment of streptococcic diseases, inoculations against calf diseases, the serum treat ment of fowl cholera, and the protective and curative inoculation against distemper of the dog are next considered With regard to the last named disease, although vaccines and sera seem to have been employed in plenty against it, most scientists declare unfavourably concerning them, as, indeed, one would expect, considering that the organism of distemper has not yet been widely identified even if discovered Tetanus antitoxin in stables infected with the organism seems to have given good results by its use, especially when combined with disinfection The use of mallein in glanders is fully dealt with, but although the names of Hunting and McFadyean appear once in the list of literature at the end of the chapter, no reference is made to Hunting's standard work on "Glanders," which may be due to the fact that the book has not yet been translated into German

There is a chapter on pyozyanase and its use It has been used beneficially in spray form and as an intravenous and intraperitoneal injection In surgery, midwifery, diseases of the ear, eye, and skin, in dentistry, in diphtheria, strangles of the horse, and distemper of the dog, the results from its application have been good Agglutination and precipitation, fixation of the complement, and anaphylaxia and anaphylactic shock are thoroughly considered in Chapters XXIX, XXX, and XXXI The rat and mouse exterminator will find a wealth of condensed information as to the destruction of these pests by the latest scientific methods within the pages of this book

The whole volume is a valuable literary mine of instruction as to the origin and preparation of animal products, and their therapeutical and diagnostic use on animals The organisms of distemper (N S Ferry) of foot-and mouth disease (Dr Siegler), and of Johne's disease (Twort and Ingram) may have been discovered almost simultaneously with the production of this work, and further valuable information may be expected

LIBRARY TABLE

The Land that is Desolate By Sir FREDERICK TREVES, Bart, G C V O London Smith, Elder, and Co 1912 Pp 287 Price 9s net —The "Land that is Desolate" is the Holy Land, a land about which more has been written, and to which more pilgrims have turned their steps, than to any other place in the world Sir Frederick Treves is already well known as the author of other books of travel, such, for instance, as "The Cradle of the Deep," a book dealing with the West Indies In that country he evidently enjoyed himself, but in the book now before us there are traces of disillusion And disillusion is, we fear, the lot of everyone who now goes to the Holy Places The hand of the spoiler lies heavy on the land, centuries of pilgrimage have vulgarised, for at least two great religions, the most sacred sites in the world, and finally, be it said with regret, nowhere else has the seamless robe of Christ been torn into more fragments Moreover, the faith or credulity of early days is wanting in these times Even the inexpressible charm of the East seems to have escaped Sir Frederick Treves in great part, and the filth, the squalor, the beggars, and the general nakedness of the land appear to have entirely obscured for the writer the attraction of the light, the colour, the transparent atmosphere, and the curious fascination of an olive grove The portions of the book which appeal to us most are the chapter upon the Jordan and the Dead Sea and those dealing with Damascus The river and the lake naturally figure largely in all accounts of pilgrimages to the Holy Land and Sir Frederick Treves will be interested, if he has not done so already, to compare his own impressions with those of Fabri, who visited the Holy Land about 1483 Both travellers tried the water of the Dead Sea, but with a somewhat different experience Sir Frederick Treves found the water in bathing "warm and very clear, but it felt oily or soapy the taste of the water was merely salt for some time after I had left the lake there was a sensation as if a mustard plaster had been applied to the shaven part of one s face" Now let us hear Fabri, who was not so daring as to bathe. "Whoever partakes of this water and places some in his mouth, at once finds the inside of his mouth corroded by reason of the excessive saltness as if he had taken very hot water, this I myself experienced Again "He who puts his hand in the water at once feels prickings, just as though his hand was covered with fleas and gnats, and he is obliged to rub them as if he had the itch, and this feeling endures for many hours, neither is it easy to wipe away this water from the hands, for it is just as though they had been rubbed with oil."[1] On most points it will be seen that across the gap of over 400 years the observers agree. In Damascus the call of the East does seem to have made itself heard, for Sir Frederick Treves gives a really sympathetic account of the site of the city and of the bazaars. He was unfortunate in the end of his journey, for he came in for a serious railway accident on his way to Haifa, and upon embarking at that port for a very severe gale. Possibly these unpleasantnesses have in some way influenced his book, which, well worth reading as it is, does not, in our opinion, do justice to its theme. We note that on p. 10 Sir Frederick Treves says: "No one knows where Tarshish was. ......" From an article which appeared in the *Times* about the middle of November, 1912, it would seem to be pretty well established that Tarshish stood where now stands Seville.

Lehrbuch und Atlas der Konservierenden Zahnheilkunde. Von Dr. GUSTAV PREISWERK. With 323 illustrations and 32 plates. Munich: J. F. Lehmann. 1912. Pp. 404. Price 14*s*.—This volume forms one of a series of handbooks of medicine published by Lehmann's, of Munich, and deals with the various operations embraced under the term "conservative dentistry." Dr. Gustav Preiswerk's name is sufficient evidence that the work has been well carried out. By means of semi-diagrammatic illustrations the different steps of the various operations are shown in a clear and instructive manner. The book may be of real value to the dental specialist.

Hoblyn's Dictionary of Terms used in Medicine and the Collateral Sciences. Fifteenth edition. Revised throughout, with numerous additions, by JOHN A. P. PRICE, B.A., M.D. Oxon., M.B. Lond. London: G. Bell and Sons, Limited. 1912. Pp. 878. Price 10*s*. 6*d*.—A factor in Hoblyn's Dictionary which has contributed largely to its arriving at a fifteenth edition is undoubtedly its literary quality, and this quality is continued in the present edition. As a companion to the medical reader who is not a profound student, however, we fear that the work may often prove disappointing. Its discrimination in eliminating terms the significance of which is presumably left to be inferred by a well-educated practitioner who also possesses a fair all-round knowledge of the subjects to which the medical terms relate is too great, and will render it an impractical rival to some of the newer dictionaries, which take little preliminary knowledge for granted. As an example of what we mean, we may point to the omission of such words as bactericidal, bacteriotropic, nidus, decinormal, hyperchlorhydria, ileocolostomy, leucopenia, zymase, oxidase, sympus, apus, and dipus, and very many others. As to eponymous terms, Trendelenburg's, Sims's, and Walcher's positions are now given. Of operations, very few are given, and those chiefly such as can be found in the ordinary textbooks; the newer ones constantly recurring in periodical medical literature are frequently absent. We still are unable to find Babinski's, Rovsing's, or Kernig's signs, Lissauer's, Bertin's, or Gowers's columns, Bassini's, Kraske's, or Stacke's operation, and many others. The first person singular of Greek verbs is still translated by an infinitive. Although the extension of bacteriological science is referred to in the preface, only 25 bacilli and 4 bacteria are mentioned. Hippuris (equisetum) finds its place in alphabetical order, but hippuric acid has to be looked for under hippo. We fail to see why zymic acid should be given only as zumic, seeing that in all other words the Greek υ is transliterated y (zymosis, zymome, zymotic, zygoma, &c.). On p. 877 ξυγός is given for ζυγός, a printer's error. As we said in reviewing the former edition, the book will be of great service in reading the older writers in medicine, but we fear it will have to undergo complete reconstruction and enlargement if it is to compete for the favour of the general medical reader with the newer medical dictionaries.

Diet Charts: For the Use of Physicians. Compiled by J. CRAIK TAYLOR, M.B. Glasg. Glasgow: John Horn. Price 1*s*. net.—These diet charts are drawn up for use in fevers, convalescence, and dyspepsia, for constipation, and other conditions. The intention is that the practitioner who uses them shall either strike out or underline the food materials which are suggested in the charts. It is a question whether the diet of a nursing mother need be as circumscribed as suggested in these charts, but they serve, at any rate, as a reminder to the practitioner of many items of diet the advantages or disadvantages of which should be considered under different conditions.

The Student's Guide to Life Assurance in Theory and Practice. By ARTHUR WYNDHAM TARN, F.I.A. London: Macdonald and Evans. 1912. Pp. 224. Price 3*s*. 6*d*.—This book is mainly concerned with a consideration of life assurance from the point of view of the actuary. It is a good guide to the study of the elementary principles of insurance. The medical examiner, as a rule, confines himself to a statement whether, after due inquiry and examination, the life may be considered an average one or below the standard, and troubles himself but little as to the actuarial side of the question. It is desirable, however, that a medical man who undertakes a fair amount of life assurance work should make himself acquainted with the elementary principles upon which the mortality tables are founded, and those on which the calculations of premiums are made. In Mr. Tarn's work much interesting information will be found in regard to these matters, but the greater part of the book is taken up with material that concerns the actuary and his assistants only. There is a chapter on the medical aspect of life assurance; some of the remarks to be found therein are of value, although they are brief, such as the observations on "family history," but the "medical views as to treatment of impaired lives" are too sketchy to be of value to the examiner. The last section of the work is taken up with a statement of the salient features of other branches of insurance.

La Vie du Règne Minéral. By RENÉ SCHWAEBLÉ. Paris: Jules Rousset. 1913. Pp. 118. Price 3 francs.—This product of the modern French School of Neo-biology is a treatise on "Mineral Biology: the Life of the Inanimate." The idea is an ancient one and may not appear altogether incredible to those who have realised how largely the energy of organic growth and development is derived from mineral substances. The little book is full of interest and stimulating thought, although one can hardly be expected to take the author seriously in his excursions into the realm of alchemy and the transmutation of metals. As might be expected, the subject of osmotic growth is very fully treated, and the book is illustrated by some very interesting pictures of Leduc's beautiful productions.

MISCELLANEOUS VOLUMES.

LITTLE books on big subjects in their physical and moral relations are brought out to-day in great abundance. A selection of those which have reached us recently may be conveniently reviewed in association with each other.

In the volume entitled *Morals and Brain*, in the series of "New Tracts for the Times" (London: Cassell and Co. 1912. Price 6*d*. net), Sir THOMAS CLOUSTON gives an admirably clear and simple account of what science has to teach concerning the relationship of moral conduct to the action of the brain in health and disease The most urgent bio social problems that we have to deal with nowadays are, as we are coming more and more to recognise, in the main, problems *of character, and, so far as they admit of the application of* preventive measures to the generation already in being, they are problems of ethical training in youth and adolescence For this reason it is of the utmost importance that the social reformer and the philanthropist should understand the physiological basis of character and the conditions which influence its development This excellent little volume will furnish that knowledge in an easily assimilable form, and its perusal should go far to dispel some of the remarkable illusions which, as the debates on the Mental Deficiency Bill have shown, are still cherished even by sapient legislators —— It is to be regretted that the author of *Can a Drunkard be Cured?* Mr E BROWN, M R C S, L R C P (London Francis Griffiths 1912 Pp 85 Price 2s 6d net), who is a medical man and presumably intends to treat his subject from a medical standpoint, should not have displayed a similar moderation and accuracy He has, however succumbed to the evil tradition which leads so many persons, when they write about alcohol, to adopt the phraseology, and in a large measure the intellectual standards of the teetotal tract The work, it is true, is addressed mainly to actual or potential drunkards and this fact may possibly explain, if it does not justify, the use of an emphatic and rhetorical style as an aid to suggestive therapeutics Devices of this kind, however, are rather prone to react on the writers who have recourse to them and may beget a tendency to exaggeration of statement, and there are evident traces of such an influence in Mr Brown's book It is an obvious exaggeration, for instance to assert that half the insanity of the country is caused by drink or to suggest that prostitution is mainly due to alcohol, and it can hardly profit the cause of sane temperance, and is assuredly irrelevant to the reform of the inebriate, to draw lurid pictures of the dangers that surround "the so called moderate drinker' With regard to the special subject of the book, the treatment of the drunkard, the author has nothing very novel to say, except that he lays rather more stress than is usual on the value of auto suggestion, from which he claims to have seen permanent results

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[1] Fabri Evagatorium, Ed. Hassler, vol. ii., pp. 154, 155.

By all those who have long realised that the housing difficulty lies at the root of many of our social problems Mr RAYMOND UNWIN's pamphlet, *Nothing Gained by Over crowding* (London Garden Cities and Town Planning Association 1912 Pp 20 Illustrated Price 3d) will be read with the greatest interest because he has there set out to prove that even from the economic standpoint nothing is gained by putting as many houses as possible on a given area When houses are built in long serried ranks, as is the case in the poorer parts of all large towns, the expense of road making is very great because such a considerable proportion of the ground must be occupied by roads in order to provide sufficient frontage for the large number of houses, whereas by the system of grouping the houses and giving more space for gardens and public recreation grounds less amount of road making is required, and consequently the expense is diminished Mr Unwin has himself given practical demonstration, both at Letchworth and at Hampstead, of his theory that there is no economic obstacle in the way of limiting the number of houses or other buildings to be erected on a given area of land, and the space thus saved from road making can be devoted to gardens and public recreation grounds When the number of houses to the acre is limited the builder s profit either on the buildings themselves or on the increased value of the land due to development will not be reduced if the profit be estimated per house instead of per acre Limiting the number of houses per acre renders each individual plot large enough to hold quite a *considerable sized house, but it is important to check* the tendency to build houses of larger size than are required by the necessities of the district Hence in addition to restricting the number of houses per acre it is wise also to limit the number of cubic feet of building to the acre This principle is in some measure observed in the Town Planning Act of 1909 and in the regulations of the Garden City at Letchworth ——Mr H CORBIN, B Sc Lond, D P H, medical officer of health of Stockport, in a useful paper on *Housing in Practice* (London 1, Upper Montagu street, Russell square Pp 16), lays stress on the necessity of pure air adequate light, and cleanliness in the dwelling and work place as essential for the prevention of tuberculosis and the reduction of infant mortality, he might also have added as one of the best means of promoting temperance Like Mr Unwin, he emphasises the advantages of limiting the number of houses per acre, and insists on the importance of local authorities purchasing as much land as is available in and around their areas, and also exercising care in the selection and supervision of tenants in the houses of the poorest class As he well says "the existence of slum dwellings encourages the indolence of those who find it less trouble to live at ease in the squalor of a slum dwelling for which they pay 2s a week than to work a few days more and live in a better house with a more wholesome environment at a rent of 4s 6d a week" Both these papers are well worth careful study by all social reformers The principles which they advocate may be found exemplified in the Garden City at Letchworth as one result of which the infant mortality does not exceed 54 5 per 1000 ——*Fresh Air and How to Use It* is the title of a book by Dr THOMAS SPEES CARRINGTON (New York 105 East Twenty second street 1912 Pp 250 Price $1) in which the various plans for obtaining fresh air by the modern house-dweller are described Ventilation, window tents, roof bungalows, wall houses, permanent sleeping porches, methods of screening porches tents, roof playgrounds and open air cottages are described and illustrated, and suggestions are made for the planning of new houses with open air apartments

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JOURNALS AND MAGAZINES

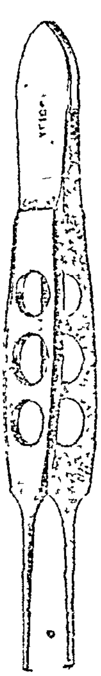
The Quarterly Journal of Medicine Edited by WILLIAM OSLER J ROSE BRADFORD A E GARROD, R HUTCHISON, H D ROLLESTON, and W HALE WHITE Vol VI, No 22 January, 1913 Oxford At the Clarendon Press Subscription price 25s per annum Single numbers 8s 6d each —The contents of this number are 1 Study of a Case of Dyspituitarism by Gerhardt von Bonin An exhaustive account is given of the pathological features found at the necropsy of a case presenting the clinical characters of benign acromegaly which had been observed by Mr Frank Corner for over 20 years The physiological and pathological effects of the hypophysis upon the various functions of the body are fully discussed The paper is one of special interest and is accompanied by a useful bibliography Among the general conclusions arrived at are that there are hardly any cases of pure hyper pituitarism or of pure hypopituitarism both processes being generally found together Sexual infantilism and *adiposity* are symptoms of hypopituitarism and are usually found to be associated with acromegaly which is the result of hyperpituitarism It is suggested that this is accounted for by Cushing s theory, that one secretion of the pituitary body enters the blood directly whilst the way for the other to the third ventricle is blocked by the pressure of the tumour upon the infundibulum. 2. The Fragility of the Red Blood Corpuscles, by G. G. Butler. It is found that the fragility of the red corpuscles is extraordinarily constant in normal and pathological conditions, but a number of general conclusions in regard to an increase or decrease of fragility are given. 3. Iron in the Blood, by P. H. C. Fowell. As a result of a long series of estimations with Autenrieth's instrument, it is hoped that its value has been proved for the clinical estimation of iron in the blood, and that Biernacki's statement, that estimations of the total iron give no true index of the hæmoglobin value, has been confirmed. It is also shown that in all individuals there is an excess of iron in the blood over that which is combined with hæmoglobin, and that this excess bears a varying ratio to the total amount of iron. 4. Premature Ventricular Beats in Heart-block, by A. E. Naish. A case is recorded and numerous tracings and electrocardiagrams are figured and discussed. 5. Observations on Auricular and Nodal (?) Extra-systoles, by E. E. Laslett. 6. Exceptional Types of Slow Heart Action, by Thomas Lewis. 7. A case in which a High Speed of the Auricles did not Produce Tachycardia, by William E. Hume. 8. Congenital Family Steatorrhœa, by A. E. Garrod and W. H. Hurtley. The case of a boy, aged 8 years, presenting a true steatorrhœa from infancy—i.e., the passage from the bowel of liquid fat which solidifies on cooling—has been carefully studied. It is suggested that the boy is the subject of a rare inborn error of fat absorption, probably a Mendelian recessive characteristic, and on a par with such anomalies as alkaptonuria and cystinuria. 9. Critical Review: Artificial Pneumothorax, by E. Rist, from the Laennec Hospital, Paris. After a historical sketch of the evolution of this method of treatment a clear description of the technique of the various methods used in its application is given. The accidents, difficulties, and complications are then considered, and a discussion of the selection of cases suitable for its employment follows. Other matters dealt with include the clinical results and duration of treatment, the morbid anatomy of the lung in cases treated by it, and the theoretical explanation of its therapeutic effects. The bibliography accompanying the article extends to 67 publications.

Le Nourrisson. Edited by A. B. MARFAN. Paris: J. B. Baillière et Fils. Published every two months. Price 12*s.* per annum (14*s.* for foreigners). A new review, bearing the above title and under the editorship of Dr. A. B. Marfan, will henceforth be published six times a year in Paris. The publication of a journal devoted exclusively to the medical aspects of infancy is quite a new departure in the annals of pædiatrics. The growing importance of the subject which this journal embraces, and the vastness of the literature which accumulates on matters relating to infant mortality and infant morbidity, certainly warrant the publication of a periodical which shall deal exclusively with these subjects, and the leading part that Paris has played in all international efforts to improve the conditions of infant life makes it peculiarly appropriate that the French capital should be the birthplace of this new journal. The first number, published in January, contains several original articles on practical matters relating to the hygiene and pathology of infancy, of which the most important are one on a Case of Congenital Stenosis of the Pylorus, by Dr. Marfan and Dr. Baudouin, and a second on the Control of the Rearing of Infants (Contrôle de l'Élevage des Nourrissons), by Dr. E. C. Aviragnet, general secretary of the League for the Prevention of Infant Mortality in France. A considerable part of this number of the review is taken up with some sound *résumés* of important articles from the general literature bearing on the subject. The first number augurs well for success and we offer the editor and his staff our congratulations.

New Inventions.

THE FINGER GRIPS OF FORCEPS.

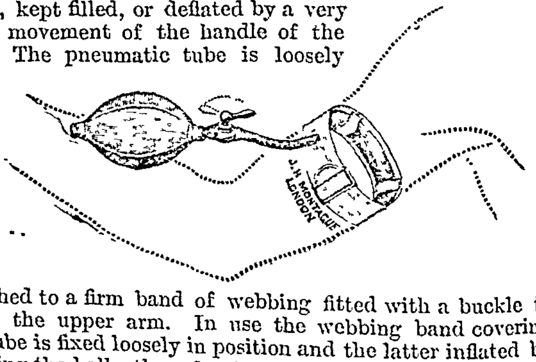
THE finger grips or plates of forceps have many varieties of markings thereon to ensure a proper hold of the instrument. The old file markings that were in almost universal use are now considered taboo in these days of "aseptic handles" (although it is curious to note that similar serrations still are retained as indispensable at the business ends of the blades). File markings have been succeeded by various breadth and depths of flutings, or by a broad shallow groove extending the whole length of the finger plate. Neither of these grips proves satisfactory; they are barely sufficient when the fingers are dry, they are inefficient when the fingers are wet, and a hold is impossible when the fingers are slippery. For some years I have been using sundry eye instruments and forceps in which the finger grips were secured by cutting holes in the flat plates. My experience of them has been most happy; they are superior in security to even the old file markings. The illustration shows a pair of iris forceps of the pattern used as conjunctival forceps in my new squint operation of subconjunctival reefing. The holes are cut square-edged and give a most sensitive grip—in fact, "grip" is a poor word in its suggestion of strenuousness; even when the fingers are wet, or purposely slippery, it is possible to hold these slender forceps accurately. The holes lighten the instrument, a matter of some consideration in eye work, and they are obviously clean. The size of the holes can be made large in proportion to the size of the forceps. The forceps are made by Messrs. Weiss and Son, Oxford-street, London, W.



Harley-street, W. N. BISHOP HARMAN, F.R.C.S.Eng.

NEW TOURNIQUET FOR INTRAVENOUS INJECTION.

THE pneumatic tourniquet here illustrated has been designed by me for use in giving an intravenous injection. I found on more than one occasion that, after having passed a cannula needle into a vein, the movement during the release of the ordinary rubber tourniquet resulted in the needle piercing the wall of the vein, or even leaving the vein. To obviate this I devised the pneumatic tourniquet. It consists of a tube of firm rubber connected by a smaller tube to an inflating ball. In the smaller tube is placed a three-way valve tap, so that the pneumatic tube can be inflated, kept filled, or deflated by a very small movement of the handle of the tap. The pneumatic tube is loosely attached to a firm band of webbing fitted with a buckle to fix on the upper arm. In use the webbing band covering the tube is fixed loosely in position and the latter inflated by pressing the ball; the valve is turned into the mid position, and in a few seconds the veins are made prominent. After the selected vein is punctured the valve is again turned to the third position, when the tube becomes deflated and the venous circulation of the limb recommenced and the injection given. The deflated tube remains in position until the injection is finished, thus obviating any movement of the limb whilst the needle is *in situ*, the whole cycle being worked by the operator with ease. I have used this tourniquet now many times and find it answers all the requirements I wished. The appliance has been made for me by Mr. J. H. Montague, 69, New Bond-street, W.



R. H. JOCELYN SWAN, M.S. Lond., F.R.C.S. Eng.
Wimpole-street, W

THE LANCET.

LONDON · SATURDAY, JANUARY 25, 1913

The National Insurance Act.

THE administration of medical benefits under the National Insurance Act is now in some sort of working order, the probability being that in those places where the old relations of *medical men to their patients* have been least troubled the Act is working best, while in those places where the maximum alteration in previous conditions has occurred, as in certain of the London districts the machinery is still very imperfect. This is, of course, not the ideal result of a great measure of reform, though it must be allowed that such complexities of routine as have been necessarily introduced into professional life could hardly be expected to produce anything at first without considerable trouble Much or all of the trouble could have been avoided if the *measure* had been *inspired* by better knowledge and passed into law after due deliberation, but no practical point is served by keeping up this cry, save where it can be rightly used in any move for necessary amendment

In another column there will be found an account of the critical meeting of the Representative Body of the British Medical Association, at which it was finally determined that the restrictive power of the pledge and undertakings demanded last year by the British Medical Association hould be removed The meeting was a private one and asted two days The proceedings, as will be seen by the account of our representative, whose presence was courteously permitted, were throughout of an anxious character, as it was impossible for the Representatives not to feel that great nterests were involved, and that obvious solutions for some difficulties would have merely aggravated other difficulties perhaps of equal importance During the first of the two days, during which the Representative Body was in session, attempts were made to arrive at some middle course whereby hose who thought that the pledge should be maintained in ull force and those who thought that it should be abrogated might fall into some common line of action It was felt to be necessary, in the position in which the British Medical Association was placed, not to ostracise or even blame those who had already gone upon the panels, as it was known hat many of them had given their names in unwillingly But it was necessary also to recognise that those who had emained off the panels had done so from a high conception f their duty to the Association and from a belief that he existing scheme for the administration of medical enefits is a menace to the progress of medicine Various motions and amendments to motions were brought forward n the effort to find some mid way which should be equally cceptable to both parties, but all these debating ontrivances were of no avail

Eventually, and not till the second day of the session, a resolution was obtained by 115 votes to 35—a majority sufficient to make the action of the Representative Body binding upon the Council and members of the Association—in favour of releasing all members of the medical profession from their pledge and undertakings, a reversal of policy which it had been widely foretold was inevitable All men are therefore now at liberty to go on the panels, although they will do so with the remembrance that they are serving under Regulations which are termed by the Government "provisional" This vote of the Representative Body has, we believe, enabled adequate panels to be formed in different parts of the country, even where this had not already occurred, but in London the revolt against the working of the Act is maintained, and the composition of some of the panels remains unsatisfactory

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The General Practitioner and Operative Surgery.

A PROMINENT American surgeon, after an extended and recent tour through England, remarked, on his return home, upon a thing that struck him with surprise in the medical practice of this country He found the extent to which, *even in country districts nearly all the operative work* was sent off at once to some hospital or infirmary, instead of being undertaken, at any rate as regarded the simpler cases, by the local practitioner, dificult to comprehend He did not attribute this to any lack of competence for in many cases not only did the practitioner hold distinguished surgical qualifications, but intercourse with him showed him to possess a high standard of surgical knowledge But few if any medical men, he said, of equal calibre in America would deprive themselves of the continuous growth of experience or of its legitimate recompense which such a course entailed, or would subject their patients to the many disadvantages incident on removal to an alien environment If a case came within the reasonable capabilities of a medical man, and anything approaching satisfactory—not necessarily ideal—environment was obtainable, the practitioner in America would operate He attributed the British practice to an abnormal sensitiveness to responsibility resulting from submission to a convention inherited from a past age, when the average general practitioner was less highly educated in surgery and had rarely enjoyed the opportunities for gaining practical experience afforded by a good residential appointment Partly right in his views, our American critic left out of his calculations the curious passion that exists in many localities for criticising the medical practitioner while ignoring his difficulties

This subject was ably discussed last week at a meeting of the Medical Society of London, reported elsewhere in this issue, by Mr T NORTH, in a paper on the Rise and Possibilities of the General Practitioner Surgeon Mr NORTH pointed out that between the rich, who could afford to retain the services of any surgeon whom they might know by reputation, and the very poor, who, if for no other reason than the absolute impossibility of their surroundings and the inevitable lack of nursing, must continue to go to hospitals for serious operative measures, there existed a large and rapidly increasing class of people who, though unable to afford the pure surgeon's fees, could afford fees for surgery that would be accepted by the general practitioner, and whose means and mode of life made possible the provision of a satisfactory environment and proper nursing. By their resort to hospitals the hospitals are overcrowded and compelled to spend at an unnecessarily high rate, the honorary surgeons have more work to do from which they receive no financial return, while the general practitioner is deprived of fees he might fairly enjoy for work that compares favourably as to its responsibility with that entailed by a difficult confinement. There can be no doubt that much of MR. NORTH'S plea, in which these things were put out, is sound. The high level to which medical education has been raised of late years means that, in the case at any rate of the by no means insignificant number who have held good resident appointments, satisfactory surgical work can be done if the local environment of the patient is suitable, and if intelligent assistance with trained surgical nursing can be got. The extension of the cottage hospital system would do much to meet the case. It would ensure the presence of adequate nursing in the locality, establish a sufficient amount of proper assistance, including the development of a local semi-professional anæsthetist, and might render available to all local practitioners access to those special means of diagnosis and treatment which are too costly for him to invest in for himself, having regard to his limited opportunities for using them. It would also afford shelter in cases where the patient's domestic arrangements could not suitably be made to meet the case.

We agree with MR. NORTH that the relations of consulting surgeons and general practitioners would be greatly improved by the extension of operating by competent general practitioners, and we think it possible, also, that the consulting surgeon would really be the gainer financially through the frequency with which he would be called in for consultation upon patients who, if they came into his hands for operation, could not afford his fees, and must, therefore, be operated on by him in a hospital for nothing. Also the time at his disposal for the consideration and development of original thought and procedure would be increased. The advantage to the public, too, would frequently be great, for the patient would often gain by remaining at home and the avoiding increased nervous dread. Moreover, as great surgical experience as possible in the general practitioner is desirable in the interests of all classes of the community alike; for persons of no class are exempt from the danger of serious emergencies involving immediate surgical intervention, and it is obvious that emergency operations are even more dangerous to life, and call for even greater surgical skill and resourcefulness than those for which adequate preparations can be made, and time, place, and assistance carefully selected. We feel constrained, however, to demur to the individual instance of what one must call malpractice on the part of a hospital operating surgeon adduced by MR. NORTH to strengthen his argument in favour of the general practitioner-surgeon doing his *own surgical* work. It is obvious that no general conclusion can be drawn from such a case, even though it be true, because it cannot rightly be alleged that such a thing often happens. A like mode of argument might easily be made to favour the abolition of the entire medical profession. But this is merely an instance of the all too common tendency to strain a point in favour of the thesis advocated. MR. NORTH'S admirable paper is convincing enough without it, and if read with a fair and open mind should do much to arouse a sympathetic interest in the subject.

The German Imperial Insurance Act.

THERE has been presented to Parliament during this week a report dealing with medical benefit under the German Sickness Insurance legislation, which deserves the study of all our readers, for any information upon the administration of medical benefits under an insurance system is extremely valuable to us. It cannot be too often repeated that the Regulations under which our own National Insurance Act is being worked are provisional in their nature, and it is certain that considerable amendments must be made if the prognostications of some of us prove unfortunately true, while the most ardent supporters of the Act, those who appear to consider that a noble object is a sufficient excuse for any unfortunate coincident occurrences, admit that in so elaborate and far-reaching a measure it is inevitable that modifications will have to be made. Now it is an open secret that much of our own legislation has been inspired by the German pattern. It is, therefore, particularly interesting to look closely at that pattern, and the Commissioners of the National Insurance Act have done well to publish this report, and place the situation as they see it freely before the public.[1] As the German Insurance Consolidation Act, though passed in 1911, will not come into full operation until the beginning of next year, the report deals with the statutory Sickness Insurance Organisations as they exist and are working at the present time, but a note warns the reader that where the new law alters the constitution of those organisations, or such of their duties, powers, or methods of procedure as specially affect the administration of medical benefit, the changes are indicated in the report in brackets. The report is based upon inquiries made personally in a number of towns in various parts of Germany, the towns being chosen with a view to ascertaining the experience of important Sickness Insurance Organisations differing in character and in methods by which the medical service is organised and remunerated. Local medical associations and representative local practitioners have been consulted, and, as a result, it is clear that there are many points of difference between the insurance legislation of Germany and of England.

For several years past THE LANCET has by articles under various headings kept its readers informed with regard to the progressive development of State insurance in the German Empire. By a coincidence in the same week that a report by our own Government on the subject reaches us, we have also received two volumes[2] in which the provisions of the Imperial Insurance Act (*Reichsversicherungsordnung*) are set forth. In view of the dissatisfaction of so many British practitioners with the insurance statutes which have become operative here, the books in question deserve attention as showing what steps have been taken by foreign medical men under similar circumstances and as being illustrative also of the latest Government report. The existence of considerable differences between the British and German systems has been frequently mentioned in our columns. For instance, under the British system old-age pensions are granted without previous contributions by the pensioner, whereas in Germany they are contributory, and the administrative body which grants them is also concerned with invalidity pensions, but not with insurance against sickness. In Great Britain, moreover, no precise distinction is made between sickness and invalidity. In the title of Dr. RUMPF's book R.V.O. stands for Reichsversicherungsordnung, and the work itself is divided into the three sections of (1) Sickness Insurance, (2) Accident Insurance, and (3) Invalidity Insurance, with Old-age Pensions, and Assistance for Widows and Orphans. Of these the first is no doubt the most important to the medical practitioner. For many, if not most, of the lower-paid occupations it is compulsory, while for others it is optional. Insurance is compulsory (1) for workmen in general (*Arbeiter*), assistants, apprentices, domestic servants, and home workers; and (2) for the following when their regular earnings do not exceed 2500 marks (£125) per annum: the office staff of business houses or manufactories, foremen, shop assistants and apprentices, druggists' assistants and apprentices, theatrical and orchestral employees, teachers and tutors, and the crews of vessels, whether foreign-going or engaged in inland navigation. Insurance is optional for (1) healthy persons belonging to the working-class, but for some reason not coming under the compulsory law; (2) members of the family of an employer and engaged in his business without remuneration; and (3) tradesmen and other owners of businesses not regularly employing more than two compulsorily insured persons. These voluntary insurers, however, must not have an annual income exceeding 2500 marks, and are subject to certain restrictions as regards health and age.

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[1] *Medical Benefit* under the German Sickness Insurance Legislation. His Majesty's Stationery Office. Price 4½*d*.

The administration of the sickness insurance, although controlled by the State, is not in the hands of any State-appointed individual or association, but is assigned to self-governing sick clubs (*Krankenkassen*), of which five varieties are specified. The clubs decide what amount shall be paid as the contributions of the insured persons, provided that it does not exceed 4½ per cent. of the wages, except that in the so-called local sick club (*Ortskrankenkasse*) the contribution may, with the joint consent of the employer and the insured person, be as much as 6 per cent. of the wages. Dr. RUMPF has a good deal to say about the difficulties with which the club medical officers have to contend, and Dr. PLAUT is particularly full on this aspect of the question, his well-timed book being mainly an account of the operations of the great medical protection society, the Leipziger Verband, with whose operations our readers are familiar. Dr. PLAUT quotes freely from official correspondence and gives particulars of negotiations brought to a successful issue against the strenuous opposition of club committees who study economy without considering the adequacy or otherwise of the remuneration offered to their medical advisers. No one can read the two books here noticed, side by side with the Report of the National Insurance Commissioners, without feeling that we have before us, and may have for some time, a great deal of difficulty in the administration of medical benefits; and also that the British service has to work out its own salvation, and cannot trust much to the German pattern, as in Germany different conditions obtain.

Annotations.

"Ne quid nimis."

BATH REDIVIVUS.

THE discovery of the strongly radio-active properties of the Bath thermal waters opens up an obvious opportunity for developing the resources of the city, and for this purpose it may be hoped that the authorities will receive unstinted and widespread support. The waters have been under the careful observation, of course, of the medical man and the chemist for some time past, but while the former knew what favourable therapeutic results in many classes of cases the waters, either by immersion or ingestion, were capable of producing, the latter could only supply a statement of analysis of negatively therapeutic constituents. As was pointed out some years ago in these columns, the composition of the Bath waters did not show any unique constituent present in important quantity, and, in fact, resembled that of many of the ordinary hard water drinking supplies in the country, which, of course, possess no special therapeutic value. It was concluded, apart from the reinforcements of treatment by diet, regular exercises, and so forth, that externally the waters were effective because they exercised a stimulating effect on the circulatory and nervous systems, helping in this way the absorption of chronic exudations, while internally their effect was regarded as merely that due to the ingestion of regular quantities of warm water promoting the removal of waste products, flushing the excretory organs, and tending to keep a regular state of the bowels. For a while our hydrotherapeutic authorities had to be content with some such explanation as this, though they had to admit that it was not a very illuminating one, as in many cases the favourable results of treatment were definite enough to point to a special therapeutic property of an agent inherent in the water itself. It is highly probable that this agent in the case of the Bath thermal waters has now been disclosed by the researches of Sir William Ramsay, who found that the waters showed an unusual degree of radio-activity due to the emanation of radium called niton. It is true that, regarded from the ordinary therapeutic standpoint, the quantity of emanation is small, but as further researches have shown, it is endowed with enormous energy, and on this account exerts intense effects which appear to be directed chiefly to promoting healthy tissue activity. Already some remarkable developments in administering the energies of the emanation have been adopted, while further methods have been suggested which promise a greater economy in treatment. At Bath, for example, the gas bubbling through the water has been allowed to escape for centuries, carrying with it the valuable emanation. This is now collected and stored in steel tubes to be used in conjunction with spray applications. Moreover, the emanation particles are strong positive charges, and therefore if the patient be insulated and charged negatively a maximum absorption of the radio-activity may be gained. Then the fact that the emanation is rapidly eliminated from the system by the lungs, skin, or other channels indicates that in internal treatment the efficiency would be increased by taking small doses of the water at short intervals instead of a large dose over a long period. The therapeutics, however, of radio-active administrations are still obscure, but enough has been cited to show that at Bath there are obvious facilities for obtaining such treatment in cases where relief may be considered probable or possible. The treatment of certain cases at Bath is notoriously successful, amongst which may be included in particular chronic gouty and rheumatic affections, where a direct relationship to the radio-activity of the waters exists. Bath, in short, possesses a natural asset of undoubted value in the treatment of disease, and this fact should stimulate the authorities concerned to put their house in order, consistently with the medicinal advantages offered. The English spas languish, not because they are without real natural therapeutic resources, but because the attractive accommodation, social attractions, and *régime* of the "Kur," which are the co-essentials of success at the foreign health resorts, are not forthcoming. We should like to see our country awake to this matter and making more effort to realise the benefits of the great natural therapeutic endowments which we possess. Bath has a peculiar opportunity at the present time. The prosperity of the city is founded on the splendid traditions of its past, on the reputation of its healing waters, now enhanced in the light of modern researches. The progressive policy which we have indicated is obvious.

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[2] Arzt und R.V.O.: der Arzt und die deutsche Reichsversicherungsordnung. Von Dr. Th. Rumpf. Bonn: A. Marcus and E. Webers Verlag. 1912. Pp. 114. Price 3 marks.
Der Gewerkschaftskampf der deutschen Aerzte. Von Dr. Theodor Plaut. Karlsruhe: G. Braunsche. 1913. Pp. 246. Price 3 marks.

THE TRUTH ABOUT COCOA.

Mr. Eugen Sandow, who, as our readers know, has no claims whatever to being a dietetic authority, has been busy "warning" the public through the channels of advertisement against the adulterations of cocoa, which he states are abundantly in evidence. The warning amounts to alleging that (we use his own words) "a very large proportion of the cocoa consumed in the fond belief that it is a pure unadulterated preparation of the natural cocoa bean, in reality contains an added drug which not only is unnecessary but actually detrimental from a health point of view." More recently he has quoted our own columns as a "striking corroboration of public warning." The quotation, we find, is taken from an annotation as far back in THE LANCET as June 20th, 1896, in which the use of alkali in cocoa was dealt with. Mr. Sandow's "added drug" is "alkali." We absolutely and positively affirm that the generality of the cocoas made by manufacturers of repute and sold on the English market do not contain alkali. We do not pretend to say that alkali is not used in the manufacture of some cocoas, but even if that is the case the finished product could never contain alkali in the sense which Mr. Sandow means to convey to the public. It is true we issued a protest 16 years ago against the use of alkali in cocoa, but, as we have since been careful to point out, the inference drawn by the public that free alkali was present in cocoa was based on a misconception of analytical results. This misconception still exists in some minds, and even in the scientific and technical literature on the subject the articles may be construed to imply that cocoa contains alkali. But the explanation as to how the misconception arose is perfectly simple, and we had hoped that it had been removed by our own contributions on the subject. We refer Mr. Sandow to an article on cocoa which is much more recent than 1896, an article entitled "Cocoa, Chemically and Physiologically Considered," which appeared in THE LANCET of Jan. 7th, 1905. He will find that there was not a particle of evidence that free alkali was present in 11 cocoas purchased on the market. There was abundant evidence, on the other hand, showing that the natural organic salts of the cocoa had been materially increased as regards both some of the English and Dutch manufactured cocoas. These salts (potassium tartrate or citrate, for example) are converted into alkaline carbonate on ignition, and it is this fact which has led to the fallacious belief in free alkali being present in cocoa. Of such cocoas it would be just as true to say that they contain alkali as it would be of wood because it yields pearl-ash or potash on burning. It would be equally reasonable to say that there was alkali in claret (an acid fluid) or tea, because the ash of these contains potassium carbonate. Mr. Sandow's cocoa also contains these salts, for while it does not contain alkali any more than the other cocoas we have examined, yet on incineration the ash is found to be strongly alkaline. Our analysis of the cocoa in question[1] showed that the alkalinity of the ash was equivalent to 2·82 per cent. of potash (K_2O), which is as high as most of the cocoas we examined. As already mentioned, we are not prepared to state that alkali is not used in the preparation of cocoa. We believe on the evidence of the best authorities that in some cases it is, but we are confident in asserting that this alkali is not contained in the cocoa as it is sent into the market by well-known manufacturers. The public, we are convinced, need have no fears of Mr. Sandow's "drug alkali" being present in by far the great majority of cocoas on the English market. It is time that this juggling with the word alkali in connexion with cocoa ceased, and that false alarms should be exposed. There is no justification at all for using the word alkali except in connexion with the true oxides of sodium, potassium and so forth—the caustic alkalies—and the presence of these in cocoas is inconceivable.

THE TREATMENT OF EPILEPSY.

IN the *Archives de Neurologie* for December last M. Maurice de Fleury, of the Académie de Médecine of Paris, has published an account of his successful treatment of idiopathic epilepsy by a combination of vegetarianism with the administration of lactic ferments. Starting with the hypothesis—for it cannot be said that the author's contentions are adequately proven—that in every case of idiopathic epilepsy a degree of meningo-encephalitis exists, dating either from intra-uterine life or from the first few months after birth, and that this lesion acts as a focus of irritation when the organism is in an unhealthy state from intestinal auto-intoxication, M. de Fleury has concentrated his attention on the latter condition as *agent provocateur* of the fits, leaving bromide or similar sedative, the action of which is solely on the organic hypersensibility of the cerebral cortex, to a large extent aside. His views of the pathogeny of epilepsy, it may be remarked, receive support from the recent experiments of M. Claude and M. Lejonne, who made subdural injections of chloride of zinc in dogs, thus determining a mild meningo-encephalitis of the motor area. This was always followed by a series of convulsive attacks, which gradually diminished and finally disappeared, the animal seemingly returning to perfect health. Then, after an interval of months the same animals received minute doses of strychnine paste in their food, with the result that they soon developed fits again and died in status, whereas control animals receiving identical strychnine doses, which had not, however, been previously injected with zinc chloride and developed meningo encephalitis remained entirely normal. The analogy which these carefully devised experiments present with what is so often seen in man—viz., convulsions in infancy from which complete recovery is apparently made to be followed by the recrudescence of convulsive attacks after an interval perhaps of years—is sufficiently close to claim attention. M. de Fleury, like every physician, has been duly impressed by the frequency with which gastro enteric disturbances are encountered in idiopathic epilepsy, and he regards these as the exciting cause of cerebral attacks although it is difficult to specify the exact nature of the poison. It is probable that intestinal putrefaction, as evidenced by the common occurrence of indicanuria, is the main source of trouble, and accordingly the author has made systematised efforts to modify the intestinal flora. He has now given up the lacto ovo vegetarian *régime* as disappointing and unsatisfactory, and retains the patient on a strict vegetarian diet with no food of animal origin. It comprises soups, farinaceous food, fresh vegetables, salads cooked or uncooked, fruit cooked or uncooked, honey, preserves and confectionery. There is, of course, nothing novel in such a *regime*, for as long ago as 1724 Cheyne in his famous "Essay on the Gout," and many others since then have enjoined similar suggestions on their patients. Vegetarianism by itself, however, is, in the opinion of M. de Fleury, insufficient. He recommends drinking not less than one litre in the 24 hours of some sweetened mineral water, to be taken in small quantity with meals and more freely between meals. Further, he strongly advocates lactic ferments in liquid form rather than as tablets and recommends they should not be too acid. Intestinal disinfection carried out in this way has proved eminently useful in his experience and a number of clinical cases are quoted to bear this out.

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[1] THE LANCET, Nov. 25th, 1911.

MAGNESIUM INFILTRATION.

THE general aim of the medical profession when confronted with an illness is to be able to say with Othello, "It is the cause, it is the cause, my soul,' for if the cause of a pathological condition be known the medical attendant is far on his way towards being able to remove or obviate the consequences. At varying intervals we are told that some condition is a cause in general of a multiplicity of abnormal conditions and this multiplicity has been ascribed to such different conditions as floating kidney, uric acid, eyestrain and the wearing of too tight a collar. It is probable that there is a modicum of truth in all these theories, for in so complicated a machine as the human organism an identical cause may produce very varying results, just as a small fragment of "dirt" may impede or destroy the working of a motor car by giving rise to abnormalities in very various parts of the machine. The most recent theory of a general cause is that put forward by Dr. John Aulde[1] in a work entitled "The Chemic Problem in Nutrition." Dr. Aulde's theory, we gather, is as follows. That alkalescence of the body fluids and tissues is the keystone of health, that the contrary of alkalescence is acid excess, that 'magnesium infiltration being the direct and immediate effect of acid excess it follows that it must be a concomitant of all disease processes" (p. 11 *et seq.*). The way in which the magnesium acts is as an insulator, the nerve becoming electro plated with magnesium oxide. Hence the normal nerve stimuli are inhibited and the tissues are coincidently affected so that they cannot do their proper work, whereupon a diseased condition follows. In infections this weakened condition favours the entrance of bacilli. It follows upon this reasoning that the main line of treatment in all diseases is to neutralise acid excess and promote magnesium dissociation. Dr. Aulde's theory is ingenious, but we fail to see that he offers any proof that in disease the nerves are electro plated with magnesium oxide and in his anxiety to support his arguments he now and then makes statements which are, to say the least of it, doubtful. His views are interesting to read, but we must add that in our opinion they must be held to be at present "Not proven."

THE SIGNS OF ORGANIC NERVOUS DISEASE IN SYDENHAM'S CHOREA.

THERE are not a few text books of medicine enjoying a deserved popularity to day in which it will be found that ordinary chorea, Sydenham's chorea or chorea minor, is classified among the functional diseases of the nervous system and placed between hysteria on the one hand and habit spasm on the other. At the same time it has long been recognised that there are certain features in the disease, apart from its association with rheumatism, which suggest an organic basis for the affection. Occasionally such complications as paralysis, amyotrophy, trophic disturbances, and certain psychoses ensue and these do not accord with the conception of a purely functional disorder. Yet it is only within the last decade that serious endeavours have been made to detect in chorea such symptoms and signs as are now accepted as indicative of organic disease of the cortico spinal and other motor paths. MM. H. Grenet and P. Loubet have written an instructive little paper on the subject, which appears in the *Revue Neurologique* for Dec. 15th, 1912. There are signs both of pyramidal and of cerebellar irritation to be found in Sydenham's chorea in addition to changes in muscle tone that seem to be definitely of organic origin. It is naturally in cases of hemichorea that the examiner can best establish the presence or absence of the following signs, for he can compare one side with the other. There is nearly always hypotonia of the affected limb, say the arm, which shows itself by the lowering of the shoulder and by the possibility of exaggerated flexion or extension of the forearm. The hypotonia is particularly well seen, as a rule, in the supinator group, the pronators retaining their normal tone. Thus if the arms are held vertically above the head the sound limb (hand) takes up the usual position midway between supination and pronation, while the affected hand becomes pronated. Combined flexion of the thigh and the trunk, so frequently seen on the affected side in organic hemiplegia when the patient, with his arms folded, endeavours to rise from the supine to the sitting position, is frequently to be observed in chorea. Again, syncinesis or associated movement—the affected side making the same movement as the sound side—is sometimes seen in chorea. Plantar extension also, it is agreed, is by no means rare in this disease. The writers have found Babinski's sign present in 19 cases out of 74. Strumpell's sign—contraction of the tibialis anticus when the patient's attempt to flex the leg on the thigh is resisted by the examiner's hand placed on the anterior aspect of the thigh above the knee, the foot going into a position of equino varus—is also to be noted in chorea. On the other hand, the condition of the tendon reflexes is inconstant and variable. As for cerebellar symptoms, defects of synergy are common enough. Dysmetria—i.e., overaction of various muscular groups in such a movement, say, as that of grasping an object—has been found in chorea in a number of instances. Similarly, there is sometimes inability to execute a succession of rapid identical movements, such as rotation of the forearm from the elbow (adiadococinesis of Babinski). No doubt the presence of abrupt involuntary movements may mask these others during testing, and, apart from this. it appears that not all of the signs above enumerated are of equal value. The presence of an extensor plantar response is, of course, highly significant. The presence of hypotonia also is worth noting, although in young children there is a greater range of passive movement than in the adult. If, however, there is a definite difference between the two sides of the body, muscular hypotonia must be considered an important sign. It is less easy to assert that cerebellar disturbances characterise Sydenham's chorea. As a general rule, if the patient is able to make slow alternations of movement well on either side, but fails on one or other in rapid performance of the same, true adiadococinesis must be admitted to occur, and it is clearly a sign of organic defect. In an investigation of 74 cases MM. Grenet and Loubet found muscular hypotonia 51 times; adiadococinesis 43 times; syncinesis in about half the cases; dysmetria in 25; Oppenheim's and Babinski's signs each 19 times; combined flexion of the thigh and trunk in 16 cases; and Strümpell's sign in 9. It may be said, therefore, that in Sydenham's chorea one or other indication of pyramidal or cerebellar defect is to be found in almost every case.

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[1] The Chemic Problem in Nutrition (Magnesium Infiltration). By John Aulde, M.D. Philadelphia: John Aulde, M.D. 1912. Pp. 410. Price $3.

THE NATURE AND CAUSATION OF BLACKWATER FEVER.

IT is a matter of common knowledge that at the present time there is a diversity of opinion among medical authorities as to the precise nature and causation of blackwater fever, some maintaining that the malady is directly related to malaria, while others contend that it is in all probability a separate disease due to an as yet undiscovered specific organism. It is, however, generally agreed that blackwater fever is only met with in persons who have either suffered from malaria or who have lived for some time in a region where they must have been exposed to malarial infection. Recently Sir William Leishman has found cell-inclusions in the blood of some patients suffering from blackwater fever, and has discussed the possible nature of these bodies at a meeting of the Society of Tropical Medicine. He suggests that they may be indications of the invasion of the cells by parasites of the class to which Prowazek has given the name of Chlamydozoa. Blackwater fever is not infrequently encountered in our own colonies in the tropics, and this fact led a short time ago to a suggestion being made to our Colonial Office by the Advisory Medical and Sanitary Committee for Tropical Africa that detailed information bearing upon the disease should be collected by the medical officers in these African colonies with a view of throwing further light upon so important a subject. In consequence of this suggestion a circular letter was despatched by the Secretary of State to the Governors of seven of our African dependencies and protectorates, in January, 1911, requesting that the principal medical officers of each should be instructed to prepare and to forward annually to the Colonial Office a special report upon the occurrence of blackwater fever and the circumstances associated with it in his colony. The particular points to which attention was to be directed were set out for the guidance and assistance of the medical officers. The first series of these reports has now appeared, having been published by the Colonial Office[1] in a special paper. Some of the reports are very interesting; but in a collective investigation of this kind some time must necessarily elapse before sufficient evidence has been accumulated upon which to base conclusions. The difference of medical opinion to which we have already referred is illustrated by some of the communications received. For example, Dr. J. Wallace Collett, acting principal medical officer of Sierra Leone, expresses his belief, the result of 17 years' experience of blackwater fever, that this disease is not directly related to malaria and is not caused by the malarial parasite. He believes that it may possibly be due to a specific microbe which as yet has not been detected, but he is inclined to regard the malady rather as a symptom of a peculiar condition of the blood in a person whose constitution has become debilitated from a variety of causes, or a combination of causes, operating upon the bodily health. Though malaria has always been in his own mind intimately associated with blackwater fever, the virus of malaria, in his opinion, has no direct or specific action in the production of the malady in question. On the other hand, Dr. A. D. Milne, principal medical officer of the East African Protectorate, states that the theory which presents itself to his mind with regard to the factor producing blackwater fever is that it depends upon a liberation into the plasma of a sufficient accumulation of some toxin produced by the malarial parasite. This latter view has received the support of some of the best known of the authorities, who have made special investigations into the disease, but further evidence obviously will be required before it can be regarded as fully proved. The accumulation of facts in the first instance, as is now being done through the Colonial Office, together with the collation and careful study of cases, seem to offer the best chances of arriving ultimately at a trustworthy decision. Meanwhile this collective investigation must in any case greatly advance our knowledge of the disease, and we have little doubt that before long a solution of the problems will be forthcoming.

COMPLETE DISLOCATION OF THE INNOMINATE BONE.

IN the *Australasian Medical Gazette* of Nov. 23rd, 1912, Dr. Thomas Fiaschi has reported a very remarkable accident—complete dislocation of the innominate bone. A boy, aged 10 years, was walking along a street bounded by a galvanised iron fence. A sudden gust of wind blew the fence down and the upper edge struck him above the left crest of the ilium. He was taken to the Sydney Hospita with an abrasion of the forehead, a wound of the upper lip, and an irregular bony projection over the left sacro-iliac synchondrosis. On trying to move the projection slight crepitus could be felt. Movements of the hip-joint were free, but any handling of the left lower limb caused pain in the region of the left sacro-iliac joint. He passed urine freely without any blood in it. On the following day he seemed fairly comfortable. A radiogram showed that the left os innominatum was detached at the symphysis pubis and sacro-iliac synchondrosis. The whole bone seemed to be elevated half an inch at the pubes and one inch at the level of the iliac crest. Under ether the displaced bone was brought down. Three assistants held the boy firmly—one at the loins and one at each lower limb, pulling apart—while Dr. Fiaschi by manipulation brought the bone downwards and forwards. He was able to make the two pubic bones level He then applied a double spica plaster-of Paris bandage and a very strong pelvic band During this manipulation, whether because the assistants got tired or the boy's muscles suddenly contracted, the bone seemed to slip partly back, for a slight inequality could be felt at the symphysis pubis After a month the plaster was removed and a second radiogram was taken, and showed that the dislocation, though less than at first, was still present A projection could still be felt above the left sacro-iliac synchondrosis However, the boy seemed very well and could walk with a slight limp Complete dislocation of the innominate bone is very rare Recovery after it is still rarer, because it is usually accompanied by severe complications, such as rupture of the iliac vessels, bladder, urethra, or rectum In this case the cause of the dislocation was evidently direct violence The blow of the galvanised iron fence on the back of the left crest of the ilium in a young subject lacerated the soft ligaments Dr Fiaschi thinks the dislocation first took place downwards, but owing to contraction of the abdominal muscles and sacro spinalis the bone was drawn up into the position in which it was found It is noteworthy that no fracture was present Dr Fiaschi did not made a second attempt at reduction after the bone slipped back, because he had no reason to suppose that the same would not recur again He did not resort to Lane's plates over the symphysis pubis and between the crest of the ilium and the sacrum, because he feared that it would be difficult in a little boy to prevent soiling of the wound by urine and fæces, which would have been dangerous Moreover, he believed that even if the displacement was uncorrected little functional loss would follow The result proved that this was correct If the patient had been a girl he would have done more in view of the prejudicial effect which alteration in the pelvic diameters might have on labour It appears that only about 20 cases of this dislocation of the innominate bone are on record, and little is said about treatment Brnbach has recorded two cases In a man, aged 21 years, the left os innominatum was displaced upwards, backwards, and outwards Continuous extension of the lower limb was adopted Reduction was incomplete, but he recovered with a solid pelvis and only slight lameness In the second case the patient was a man, aged 44 years, and complete reduction was obtained by means of Schede's extension table It took place with a characteristic snap He was kept for a fortnight in plaster of-Paris, and for the remainder of the month on extension The pelvis recovered its normal shape and solidity, but neuralgic pains and atrophy of the limb remained

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[1] Reports on Blackwater Fever in the T
Presented to both Houses of Parliament
December, 1912. London: Published l
Office. Pp. 45, with maps and charts. Price 1s. 8*d*.

THE PROBLEM OF SPONTANEOUS GENERATION

THE experiments of Pasteur and Tyndale have for the last 40 years or so been almost universally allowed to afford proof of the impossibility, under our present conditions of knowledge, of the occurrence of abiogenesis Dr H Charlton Bastian is, we believe, the only eminent man of science in this country who still holds the opposite view, and only so lately as Nov 19th, 1912, he read a paper before the Pathological Section of the Royal Society of Medicine, in which he related experiments and defended his thesis with unwearied energy In September, 1912, Professor Schafer, in his presidential address to the British Association, stated with regard to spontaneous generation, "Our mistrust of such evidence as has yet been brought forward need not, however, preclude us from admitting the possibility of the formation of living from non living substance" In October, 1912, there was issued what the author modestly calls a "petit opuscule" by Dr H Grasset, entitled "A Historical and Critical Study on Spontaneous Generations and Heterogeny"[1] The gist of Dr Grasset's contention is that heterogeny and spontaneous generation, although hitherto they have been confused, are not the same Spontaneous generation is the generation of a living organism at the expense of mineral matter or of organic (not organised) matter which is dead This, says Dr Grasset, has not been demonstrated, "and I know of no proofs in support thereof" But heterogeny is e production of an organised individual without parents (*dénué des parents*), the issue of organic still living matter The major portion of Dr Grasset's book consists of a careful and methodical survey of the doctrine of spontaneous generation and of the arguments and experiments for and against the same from the days of Anaxagoras 500 B C to the present day Life, says Dr Grasset, following the views of Mialhe and Béchamp, is physiologically a universal fermentation, and the ferment, or that which plays the part of the ferment is the *microzyma* which is the real primordial element of animated life—that is to say, the vital molecule Therefore, continues Dr Grasset, in order to realise a true spontaneous generation we have only to create a microzyma and such a creation he considers within the bounds of possibility For already plasmogenists, especially Charlton Bastian, have created the *forms* of torulæ and microbes, and the function of a ferment has been artificially brought about by chemical or electrical methods; therefore, once we are able to unite the form and the function the problem is solved But the method by which this union is to be accomplished is still to seek In an addendum to his work Dr Grasset discusses Dr Bastian's experiments and results He believes that Dr Bastian has obtained living beings which are unable to resist the heat to which he subjected the solutions employed, and further, that he made no error in technique, so that external infection is out of the question But, says Dr Grasset, "Ch Bastian considers this a case of archebiosis, I think it only a case of heterogeny" And his explanation is that the organisms obtained by Bastian are due to microzymæ Whether or not Dr Grasset's views are correct, time alone can show, but in any case his little book is a most interesting and valuable contribution to the study of a yet unsolved problem

BILATERAL PARALYSIS OF THE THIRD NERVE IN TYPHOID FEVER

PARALYSIS of cranial nerves is a very rare complication of typhoid fever At a meeting of the Société Médicale des Hôpitaux of Paris on Dec 6th last, M A Lemierre M E May, and M Colet reported the following case in which bilateral paralysis of the third nerve occurred A girl, aged 18 years, was admitted into the Cochin Hospital on May 13th, under the care of Professor Widal A fortnight previously her illness began with pains in the left lower limb and shivering For eight days she was completely constipated Then she was given a purgative and an enema, and from that time there was profuse diarrhœa During the last ten days she was prostrated and somnolent and complained of violent headache On the fourteenth day epistaxis occurred On admission she was pale and weak The temperature was 103 6° F and the pulse 96 There were no signs of typhoid fever Some sibilant rhonchi were heard at the right apex On the seventeenth day of the disease the serum gave the typhoid reaction, but blood culture was negative On May 16th rose spots appeared on the flanks The disease ran a protracted course On June 13th, the forty seventh day of the disease, the temperature was 102·8°, and for the first time nervous symptoms were observed. Previously docile, the patient became bad-tempered. She refused to drink and acted like a child, complaining without cause, and lamenting if her desires were not granted. On the 15th the condition of childishness increased. She complained of violent headache and suffered from photophobia. She could not bear to be touched; there was manifest hyperæsthesia. In the afternoon ptosis of the right eyelid was manifest, and the pupil on that side was dilated, but it reacted normally to light and on accommodation. Inward rotation of the eyeball was lost and rotation upwards and downwards was diminished. Thus there were paralysis of the levator palpebræ superioris and internal rectus, and paresis of the superior and inferior recti, and the nerve supply of the constrictor of the pupil was affected. There was, therefore, paralysis of the third nerve. There was no paralysis of the left eye. Lumbar puncture was performed and yielded normal fluid. The patient became delirious, and on the 20th ptosis of the left upper lid was observed, but movements of the eye were normal. On the 21st movements of the left eye were slow and paretic, showing paresis of superior, inferior, and internal recti. The knee-jerks were absent. On the 22nd the left superior and inferior recti were completely paralysed, and the left pupil was sometimes dilated. The patient was somnolent and replied with difficulty to questions. The temperature was 103·1°. On the 23rd there was difficulty in swallowing; milk could be taken only in small mouthfuls, and some of it flowed back. On the 24th there was complete paralysis of both third nerves. On the 25th the patient died comatose. A necropsy was not obtained. Few cases have been recorded of ocular paralyses in typhoid fever. Hervieux described paralysis of the left third nerve in a fatal case of typhoid fever.[1] Lloyd published a case of isolated paralysis of the sixth nerve,[2] and Cormack described the same lesion with paralysis of all four limbs. Difficulty of deglutition in relation with paralysis of the soft palate is not so rare. It may occur with multiple paralysis of the limbs, producing more or less exactly "Landry's paralysis," or it may be accompanied by laryngeal paralyses or dysarthria. Cranial paralyses in typhoid fever are probably not always due to the same cause. Pathological observations on the subject are still rarer than clinical. It is known that typhoid infection may give rise to cerebral hæmorrhage, which is, no doubt, sometimes a cause.

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[1] Etude Historique et Critique sur les Générations Spontanees et l Hétérogénie Par le Dr H Grasset Paris: Jules Rousset 1912 Pp 192 Price 4 francs

A STUDY OF THE BLOOD IN A CASE OF SEVERE HÆMORRHAGE.

The opportunities for studying the blood after severe uncomplicated hæmorrhage are not very frequent. Hence the importance of the following case reported in the *Boston Medical and Surgical Journal* of Dec. 5th, 1912, by Dr. J. Earle Ash from the Laboratory of the State Hospital for the Insane, Norristown, Pennsylvania. A young woman suffering from a functional psychosis was seized with pain in the epigastrium and vomiting. At the same time a vaginal discharge of thick, brown gelatinous mucus appeared. In about 12 hours the pain became generalised over the abdomen, and there was considerable distension. The pulse became small and rapid and she was very pale, the mucous membranes appearing practically bloodless. There was no elevation of temperature, the abdomen was not rigid, and only slight general tenderness could be elicited. In spite of the history, which seemed to discredit the possibility of pregnancy, a tentative diagnosis of ruptured ectopic pregnancy was made. The abdomen was opened about 24 hours after the onset of symptoms; much clot was removed, and ruptured right tubal pregnancy was found. 1·5 litres of saline solution were administered by the bowel, and uninterrupted recovery followed. The amount of the hæmorrhage could not be exactly estimated, but it considerably exceeded a litre. Just before the operation, about 24 hours after the onset of hæmorrhage, the leucocytes numbered 40,000. After the operation a series of blood examinations were made. Eighteen hours after the operation the hæmoglobin was 25 per cent., the erythrocytes numbered 825,000, and the leucocytes 24,400, of which 92 per cent. were polymorphonuclear neutrophiles. Other examinations were made 24 hours, 2 days, $2\frac{1}{2}$ days, 3 days, $3\frac{1}{2}$ days, 6 days, and 2 months after operation. The amount of hæmogobiln was respectively 25, 28, 30, 28, 30, 30, and 75 per cent.; the erythrocytes numbered 870,000, 1,830,000, 1,740,000, 1,950,000, 1,800,000, 2,550,000, and 4,310,000; the leucocytes 18,600, 15,200, 14,000, 12,600, 8000, 11,800, and 6800; and the polymorphonuclears were 91, 87, 81, 72, 82, and 58 per cent. Analysis of the facts observed showed the following: (1) High leucocytosis after the hæmorrhage which diminished consistently and fell to normal on the fifth day after the onset; (2) an increase in polymorphonuclear neutrophiles; (3) a low percentage of transitional forms in the early counts (1 per cent.); (4) an extremely low number of erythrocytes with absence of nucleated cells; (5) a low percentage of hæmoglobin which persisted for several weeks. Leucocytosis following acute hæmorrhage was described by the older writers such as Virchow. The following figures have been given by more recent writers; 41,000 leucocytes one hour after severe hæmorrhage, dropping to 14,000 in five days; 32,600 following hæmorrhage from cancer of the uterus; and 26,500 in hæmorrhage due to gastric ulcer. The extent of the leucocytosis is in proportion to the severity of the hæmorrhage. There does not appear to be any completely satisfactory explanation of the leucocytosis. It may be due to concentration of the leucocytes already present in the blood or to the discharge into it of cells held in reserve to meet such an emergency. Most observers have found numbers of nucleated red cells, except in cases terminating unfavourably. It has even been claimed that when the red cells fall below a million with absence of erythroblasts the case is always fatal. The one now recorded is an exception. The restitution of the number of erythrocytes to normal is much slower than the disappearance of the leucocytosis, and generally takes from 16 to 20 days. The development of hæmoglobin is still slower, the new erythrocytes being poor in this substance. This is shown in the figures given above.

The King has given His Majesty's Royal licence and authority to Llewellyn Powell Phillips, M.D., B.C. Cantab., F.R.C.S. Eng., Professor of Medicine at the Medical School, Cairo, to accept and wear the Insignia of the Third Class of the Imperial Ottoman Order of the Medjidieh, which decoration has been conferred upon him by His Highness the Khedive of Egypt, in recognition of valuable services rendered.

Professor Arthur Keith, M.D., has been elected President of the Royal Anthropological Institute of Great Britain and Ireland.

University of London: King's College.—A course of four lectures on Recent Advances in Chemical Physiology and Pathology will be given by Dr. Otto Rosenheim in the Physiological Laboratory, King's College, London, on the following Monday afternoons at 4.30: Feb. 3rd, 10th, 17th, and 24th. These lectures are free to all medical students in London medical schools, and to all internal students of the University of London, and to medical men on presentation of their cards.

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[1] Union Médicale, 1858.

[2] Revue Neurologique, 1909, p. 1233.

NECESSITY OF A BETTER CLASSIFICATION OF EPILEPTICS

BY W. ALEXANDER, M.D. R.U.I., F.R.C.S. ENG.,
SUPERINTENDING MEDICAL OFFICER, EPILEPTIC COLONY, MAGHULL.

THE disastrous and pernicious custom of mixing up sane epileptics with imbeciles and epileptic lunatics, not only in the same habitations but also in the same literary and mental categories, is one that should cease.

Until December, 1888, when the first colony for sane and educable epileptics was established at Maghull, epileptics in this country whose relatives and friends could not look after them drifted to the imbecile or lunatic wards of asylums and workhouses, and certificates of insanity or of unsound mind containing the word "epileptic" did not require much other evidence to render them valid. The striking symptoms of a fit were quite sufficient to place on a par mentally and physically the sane epileptic, the insane epileptic, and the epileptic imbecile. It has often happened in the past that an epileptic, who appeared to the alienist under whose care he was to be sane, has been admitted for some action supposed to be a mad one by frightened or interested relatives or friends. Such a history, together with the alienist's knowledge of how many insane epileptics or imbeciles he has had under supervision, naturally will lead to the conclusion that although the state of mind of the particular case was very fair, yet as he was still an epileptic and liable to repeat the deed for which he had been sent to the asylum he could not be discharged. Besides, the alienist would reflect that, according to his knowledge of the disease, time would soon bring about the state of dementia to which, according to the prevalent opinion, all epileptics are liable, and therefore it would not be wise to take any risks.

With a better knowledge of epilepsy it is horrible to contemplate the condition of many poor epileptics in the past when there was no redress and no help, and when the effects of their environment often produced that dementia which the alienist ascribed to the disease. Our experience has amply proved the prevalence of this erroneous conception of epilepsy amongst all classes of society at the present time. For instance, when we first established our colony at Maghull the popular idea amongst the native population there was that the inmates of our homes were mad, and they wished walls built all round the place lest the sight of our patients working in the field should upset the course of nature in the observers. It was only when our patients beat the youth of the village at games that they were looked upon as rational beings. When we first placed a number of our patients under the charge of our farmer to dig up a lawn his good humoured tolerance of our belief that such patients could work was amusing to contemplate, and certainly the result of his management of them confirmed the bailiff's impression. When it was proved that they could and would work, his belief in their sanity took root and flourished. The same prejudice had to be eradicated in turn from the minds of all our officials. Again, when we established our school even the education authorities did not look upon the teaching seriously. They insisted strongly on drill, kindergarten work, and other interesting playthings, but the teaching of the "three R's" was preposterous in their sight. They went on the supposition that the children were all imbeciles and idiots and that the "three R's" were useless and impossible. It was only by examining the schools ourselves and insisting on progress in reading, writing, &c., that we were able to resist the powerful influence of the Board of Education, an influence due to a false conception of the mental capacities of sane epileptics. Paradoxical as it may seem, the Board insisted on highly paid and highly certificated teachers who were to spend the time on trifles and inanities that were looked upon as puerilities by most of the pupils.

"Psychic equivalents" of epilepsy, mistaken relationship.—The symptoms of epilepsy being so striking, it is not surprising that anything which occurs to an epileptic, connected or not with a fit, should be considered as belonging to the disease. Thus, if an epileptic becomes maniacal, it is called "epileptic mania"; if he be the subject of delusions unconnected with a fit, it is called a "psychic equivalent" of epilepsy; and if an epileptic—or, indeed, anyone who has ever had a fit—commits any mad act most alienists would ascribe that mad act to the influence of epilepsy and not to a temporary insanity unconnected therewith. My contention is that these "psychic equivalents" point to insanity as a companion disease, and I hope to be able to show that patients who exhibit "psychic equivalents" often become insane, and that ordinary sane epileptics do not show "psychic equivalents" and do not tend to dementia or insanity. That alienists should associate epilepsy with insanity and imbecility and believe in the frequent termination of epilepsy in dementia, was no doubt often justified by the class of cases received by them; but that modern superintendents of colonies should still share such an opinion is the more surprising when we have institutions for sane epileptics. For instance, Dr. W. L. Shanahan, the medical superintendent of Craig Colony, U.S.A., in a lecture says: "*Epilepsy is a disorder leading to dementia.*"[1] This is an opinion not by an "alienist" but by a superintendent of an epileptic colony to which are sent not only many imbecile epileptics but also many sane epileptics; no doubt the degeneracy of the imbeciles may have confused the issue and caught the attention more than the permanence of the sanity of the sane. However this may be, what I am prepared to prove is *that sane epileptics do not tend to dementia to any serious extent.* To do this I have analysed our experience at Maghull, and in order to do so as effectually as possible I have only considered patients who have been under our care for three years and upwards. This excludes all temporary cases and consequently all cases of which the issue is doubtful owing to insufficient time. The numbers available for our purpose are shown in the following table:—

TABLE I.—*Epileptics who have been Inmates of the Homes at Maghull for over Three Years.*

Essential sane epileptics.	Epileptics with "psychic equivalents."	Imbeciles of various degrees.
256	19	84

When we opened our colony we intended to take only sane epileptics, but the natural tendency of parents and guardians at first was to send us only the worst cases, such as imbeciles and troublesome epileptics. As we were undertaking a comparatively new work we had to ascertain how far the colony treatment would benefit the more imbecile cases and how far the troublesome ones would be influenced for their good by the life and peace we offered them. Our staff worked enthusiastically to develop the imbecile and to preserve, and if possible to restore, the balance of the mentally affected, and hence the above divisions of our patients and hence our experience with cases which we did not expect to have, and which we do not now receive for obvious reasons. We do not express opinions, but refer with confidence to Table II., which shows the length of time these patients have been under observation. None of these patients have ever shown "psychic equivalents." Their minds were sane, their conduct rational, although their intellectual capacities varied from clever accomplished individuals to others who might be called feeble minded.

TABLE II.—*Time under Observation of 256 Sane Epileptics.*

No.	Time.	No.	Time.	No.	Time.
61	over 3 years	12	over 10 years	3	over 17 years
29	4	6	11	4	„ 18
26	5 „	10	„ 12	1	19
19	„ 6 „	14	„ 14	1	20
17	7	1	„ 15	3	22
16	„ 8	9	16	1	24
23	9				

Average time under observation nearly 7 years. Only 5 of these patients deteriorated and may be said to have become subjects of dementia:—(1) A woman who had been sent away for dementia 17 years after she became an epileptic; (2) a man who became demented and unmanageable 17 years after he became an epileptic; (3) an emotional girl who became gradually a troublesome dement 23 years after becoming an epileptic; (4) a troublesome girl who became demented 22 years after the onset of epilepsy; (5) a youth who seven years after the onset of epilepsy became demented and quarrelsome. Total dements out of 256 cases 5, or 1.96 per cent. This does not show a strong, or considering the time occupied in the change a rapid tendency to dementia in sane epileptics. Twenty of the 256 were what might be called feeble-minded persons—i.e., persons who possessing all their faculties but without any great mental force, yet were not such as we could apply the term imbecile to. Not one of these deteriorated to any appreciable extent, although they were with us longer than the others and had every opportunity as far as time was concerned to show any impairment in their work or mental condition.

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[1] Lecture at Fordham University School of Medicine, New York City (International Clinics Series).

Patients with "psychic equivalents of insanity."—The history of these patients tells a very different story. There were 19 patients in this class. Their symptoms varied, and we will refer briefly to the nature of the equivalents which were always periodical: Delusions of poisoning; violent and apparently uncontrollable fits of temper unconnected with attacks; "fits of melancholia"; periodical outbursts of degraded or profane language; periodic efforts to escape by secret and difficult methods when doors were open; sudden, violent, and unprovoked attacks on teachers, nurses, or companions; recurring delusions about religion, &c. To mention two individual cases in detail. One young girl would be amenable to order and discipline for several weeks. She would perhaps be employed in sewing with several others when she would rise deliberately from her place, walk composedly across the room, and pinch a patient so severely as nearly to nip the piece out. She would then resume her seat, and on being taken to task would be very sorry, apologise, and promise amendment, but she repeated the act again and again, and no treatment could affect the impulse. She had to be removed. Another girl, a child about the same age (12 years), would periodically attack the nurses or her companions, pull out their hair or scratch their faces, and, although very sorry in the intervals and very loveable then, no training or warning could prevent their recurrence. Every one of these 22 patients with one exception became worse mentally and had to be removed, although "no stone was left unturned" in our efforts to save them. The majority were afterwards removed by their friends to lunatic asylums. The one exception was an adult woman who had periodical mental attacks, or "psychic equivalents," but who died in "status." Otherwise I have no doubt she would have ended her life in an asylum.

I now regard these not as "psychic equivalents" of epilepsy, but as prodromata or as premonitory symptoms of insanity, and the results—viz., the gradual development of insanity and their final removal to asylums—prove that, practically at least, my view that they are insane is correct. Table III. shows how long and with what success we were enabled for years to keep such cases out of a lunatic asylum, but every case had to be removed finally except one, and she went to her grave instead. It has not often occurred hitherto that we have had such an extended record of patients with "psychic equivalents." Our interest in such cases was always great, but we had no idea until lately that the prognosis was so gloomy. Until I studied these cases I shared the common view of "psychic equivalents" of epilepsy. Since looking up the records I regard "psychic equivalents" as forerunners of insanity.

TABLE III.—*Time in Homes of Patients with "Psychic Equivalents" before Removal became Necessary.*

No.	Time.	No.	Time.	No.	Time.
1	2 years.	1	9 years.	1	14 years.
4	3 ,,	2	10 ,,	2	15 ,,
2	4 ,,	1	11 ,,	1	16 ,,
1	6 ,,	1	13 ,,	1	18 ,,
1	7 ,,				

None of these cases were congenital epileptics.

Alleged causes of epilepsy in those suffering from so-called "psychic equivalents."—In two cases the children were three years of age, and were said to have suffered from sunstroke. In another case the attacks began at three years of age without any cause. In one case, aged 5, the alleged cause was rheumatic fever. Three were 8 years old at the time of the onset of the fits, and in two of them the alleged causes were the extraction of a tooth and a fall. In the remaining 11 cases epilepsy began at from 12 to 18 years of age, and the alleged causes were falls (2 cases), and menstruation (1). No definite causes were alleged in the remainder. In only two cases was there a history of epilepsy or other nervous disease in the family.

TABLE IV.—*The Effects of Time on Imbecile Epileptics.*

Results of Prolonged Treatment of 84 Imbecile Epileptics.

Deteriorated.		Improved or remained *in statu quo.*
53, or 63·8 per cent.	....	31, or 36·8 per cent.

As to our epileptics who were more or less imbecile on their admission to the homes, the above table shows that we have a different tale to tell from that which we have already told about the sane epileptics, but not quite so bad a story as that which we have also told about those cases with "psychic equivalents." These patients when admitted were imbecile to a moderate extent, but all had distinct mental defects. In regard to their habits, they might be said to belong to the better class of imbecile, so that we were able to keep them until they became a nuisance, and the next table shows how slowly the degradation took place. The helpless, hopeless imbeciles were rejected on application, or, if they appeared to be worse than we expected, on being presented for admission they were sent back home as soon as convenient. Those whom we received were taught and trained by enthusiastic officers, and every effort was made to improve their brains and to restrain the violence of the epilepsy.

The degeneration was a gradual process, as the following table (Table V.) proves. This table shows the number of years of their stay in the homes before they became absolutely unsuitable, and there was sometimes great reluctance on all sides to break the bonds that bound the nurses and the patients together.

TABLE V.—*Time 53 Imbecile Epileptics were kept at the Homes before Deterioration Rendered them Quite Unsuitable.*

No.	Time.	No.	Time.	No.	Time.
9	3 years.	4	8 years.	2	14 years.
6	4 ,,	4	9 ,,	3	15 ,,
7	5 ,,	4	11 ,,	1	16 ,,
3	6 ,,	4	13 ,,	1	17 ,,
5	7 ,,				

The next table shows that 31 imbecile epileptics did not degenerate, and gives the time these patients were under observation.

TABLE VI.—*Showing how long 31 Imbecile Epileptics were kept without Deterioration or were Improved by Treatment.*

No.	Time.	No.	Time.
2	3 years (1 still with us)	4	9 years (3 still inmates)
2	4 ,, (both still with us)	1	12 ,, (still an inmate)
5	5 ,, (1 still with us)	1	13 ,, (,, ,,)
4	6 ,, (3 still inmates)	1	16 ,,
3	7 ,, (2 ,, ,,)	1	19 ,, (still an inmate)
7	8 ,, (6 ,, ,,)		

Of these patients 21 are still in the home, several of whom have improved very much, but the majority retain much the same mental conditions as when admitted. None have deteriorated, although the average time under observation was 7·4 years, quite sufficient time for degeneration to set in if epilepsy always lead to dementia.

We have tabulated the ages at which the epilepsy began in all these imbecile cases, so that we might compare them.

TABLE VII.—*Age at which Epilepsy first Appeared in 53 Imbecile Epileptics who Deteriorated.*

No.	Age.	No.	Age.	No.	Age.
12	Birth.	5	7th year.	1	16th year.
2	1st year.	1	8th ,,	1	17th ,,
3	2nd ,,	4	9th ,,	2	18th ,,
5	3rd ,,	2	12th ,,	2	20th ,,
1	4th ,,	1	13th ,,	1	21st ,,
2	5th ,,	1	14th ,,	1	48th ,,
4	6th ,,	2	15th ,,		

In eight cases there was evidence of hereditary disease in the family history.

TABLE VIII.—*Age of Onset of Epilepsy in 31 Cases of Non-deteriorated or Improved Epileptic Imbeciles,*

No.	Age of onset.	No.	Age of onset.	No.	Age of onset.
11	Birth.	2	5th year.	2	9th year.
3	1st year.	1	6th ,,	1	11th ,,
2	3rd ,,	4	7th ,,	1	13th ,,
2	4th ,,	1	8th ,,	1	18th ,,

In 5 of these non-deteriorated cases there was evidence of hereditary disease.

We have not much evidence of the mental condition of the patients before the onset of the epilepsy In one case the child was said to be very bright and precocious in her school accomplishments With the onset of convulsions her knowledge all disappeared, and when she came to us she had to be retaught the days of the week Very slow progress was being made when she died in "status"

In concluding this part of the subject I think it may be considered proved First, that healthy, sane epileptics under the conditions of a normal life in a modern colony do not tend to dementia, and are not liable to so called "psychic equivalents" of epilepsy Secondly, that where "psychic equivalents" occur there is also a tendency to insanity in the future Under the conditions of a normal life the tendency is kept in check, but as time advances, in the great majority of these cases, the tendency becomes stronger and stronger, and most of the cases become unmanageable and drift to an asylum or to the insane wards of a workhouse Thirdly, that imbecile epileptics show a tendency to dementia, 63 per cent of 84 cases becoming demented after being under observation for long periods of time varying from 3 to 17 years, or an average of 7 years On the other hand, 36 per cent. of the 84 cases or 31 imbecile epileptics who were under observation for similar periods of time and under quite similar circumstances, did not change for the better, except in a few instances, after an average period also of 7 years

We have considered the question whether amongst all these patients there were any characteristic differences in the nature of the attacks, the age of onset of the disease, or in hereditary influence, but so far we have not been able to detect any The administration of bromides to imbecile epileptics appears to us to be much more harmful and much more likely to bring about dementia than is its administration to sane cases Again and again, when dementia threatened, we have temporarily arrested its onset by stoppage of all bromides and by attention to the general health

Confusion of ideas in regard to the character of sane epileptics—One writer quotes an authority for saying that the most characteristic phenomenon of epilepsy is not convulsions, but periodical emotional disturbance characterised by sudden depression, or excitability, or fear, home sickness, suicidal desires, and marked mental confusion The same writer also quotes an opinion on the epileptic character as "one compounded of egotism, obstinacy, deceit, hypocrisy, family pride, and reckless, quarrelsome excitability, recurrent outbreaks of temper accompanied by morbid suspicion and wanton destructiveness' Our experience at Maghull, except in the case of the patients with "psychic equivalents," whose character has already been described in this paper, does not lend any support to the truth of the description of the epileptic character just given

The most characteristic phenomena of essential epilepsy are convulsions, and the mental and emotional disturbances are only such as one would expect in a person subject to epilepsy Suppose the reader to imagine himself an epileptic liable to fall down unconscious at any moment and in any place, would he not be likely to suffer from times of depression, excitement or even fear, without such symptoms being considered part of the disease? I do not know what is meant by home sickness but if it refers to institution treatment, it is not more in evidence amongst our patients than amongst boys at a public school Suicidal desires, marked mental confusion, egotism, obstinacy, deceit, hypocrisy, family pride, and reckless or quarrelsome excitability, recurrent outbreaks of temper accompanied by morbid suspicion and wanton destructiveness, are not symptoms at all of simple, essential, sane epileptics I have quoted these supposed characteristics of epilepsy to matrons at Maghull, who have had charge of households containing from 40 to 60 epileptics for many years, and their remarks were not complimentary to the intelligence of the writer who could describe such symptoms as the general characteristics of their past and present inmates Our homes at Maghull are all managed by ladies, and have been so managed since their foundation 24 years ago Were the above statements not a libel on a deserving class, already hopelessly handicapped by one of the most dreadful diseases that afflict humanity, would it be wise or possible to do without the assistance of the sterner sex in dealing with them?

Character of sane epileptics—Ordinary sane epileptics are subject to the same feelings and tempers as other people They are specially dependent on relatives, friends, nurses and attendants owing to their infirmity they are attracted by sympathy and kindness, and are repelled by want of sympathy and unkindness, more so than ordinary individuals They are very responsive to justice and fair play, and appreciate fair dealing acutely, like people to whom it has once been a stranger To appreciate this point we must place ourselves in the epileptic's place and look upon matters from the epileptic's point of view We shall then see that there are many pre epileptic or post-epileptic events which an epileptic strenuously denies knowledge of because he knows nothing of them, does not even know that he has fits, or realise what a fit is He is often surrounded by lies from his childhood upwards through a mistaken notion that any lie that will keep him in ignorance of his epilepsy is justifiable, forgetting that the patient has a brain and soon finds out that he is being deceived and that there is a mystery somewhere which he cannot fathom When he reaches a colony the mystery is solved He neither "dies' nor "goes mad," as ignorant relatives would have us believe he would if he knew the truth about himself, but instead he settles down to make the most of the large portion of life still left to him He recognises his limitations, realises the dangers of his position, and knowing that he is safe in sympathetic company he can enjoy his life when he is relieved of the incubus that preys upon him, and, secure in the company of his equals, the conversation becomes unrestrained and spontaneous, and quite on a level with that of the class of society whence the patients are derived

In conclusion, I would try to impress on the authorities that sane epileptic children can be taught the foundation of all knowledge—viz, reading, writing, and arithmetic—with little more difficulty than with ordinary healthy children Arrangements must be made for the fits, but these only occupy a small portion of their time, and the greater part of it can be utilised for ordinary school work The idea that these children cannot be taught to read, to write, and to do arithmetic, or that it is unnecessary or useless to teach them these things, is a wrong one Education is a therapeutic remedy of great value, it strengthens the brain, tends to develop growing centres, and produces habits of perseverance, of attention, of self control, of initiative, and of determination If the school authorities give out the impression that epileptics cannot be taught, why should we have highly trained and certificated teachers when kind hearted women who know some needle work and some drill would do as well, and the present talent now wasted could be utilised elsewhere?

Epileptics enjoy the pleasure of reading probably as much as other people It was stated in my presence some time ago by the superintendent of an epileptic colony, a colony certainly where a good many feeble minded and more or less imbecile epileptics are admitted, that it is no use teaching epileptics to read that they rarely use the accomplishment or if they do appear to read, they do not absorb the knowledge or even know what they are reading about I have ascertained the facts as regards the same epileptics at Maghull The various matrons gave me the numbers of those who are in the habit of reading books in their leisure hours and who are in the habit of discussing literary questions with each other Amongst 171 male patients, 79 were fond of reading, and occupied their leisure hours in this way Many of the others read spasmodically, but enjoy games and other methods of passing the time better Amongst 140 female patients only 26 were fond of reading, or altogether 105 out of 311, or 33 7 per cent We must remember that the leisure of the women was more likely to be utilised in sewing and embroidery, and where the majority took an interest in such feminine employments it required a strong penchant for a book in the 26 to choose that method for passing the time when, for example, love of dress and other instincts called them instead to the use of the needle Besides, we do not encourage poring over undesirable books and the report of the matrons gives the state of affairs without any desire to vary the records one way or the other of open-air teaching by means of open-air schools, playground classes, and, if possible, the establishment of "night camps"; and the need for systematic and prolonged after-care and following up. An addendum on the care of tuberculous children in Germany is appended to this part of the report, in which an interesting account is given of the work in that country.

The Methods of "Following Up."

The important bearing which the adoption of the proceeding known as "following up" has upon the success of the work of medical inspection and treatment is generally recognised and need not be insisted upon here, but Sir George Newman usefully discusses the methods adopted and indicates the lines along which advance has been made during the year. In the first instance, he notes that this is being partly effected by the larger coöperation of parents, who are invited to be present at the time of the inspection of their children. It has not been found that medical inspection has undermined the sense of responsibility of the parents, but has indeed awakened it. It is true that the mother has only been present from 40 to 60 per cent. of the occasions on which her child was inspected, but Sir George Newman says that there is abundance of evidence in connexion with the results that the apparent slackness is often due to want of opportunity only. So again evidence shows that teachers are coöperating, while the services of the school nurse or health visitor are being increasingly employed. Indeed, efficient following up proves in many areas to be impossible unless the arrangements for the school medical service include the employment of school nurse or health visitor for whole or part time. It is important that their duties should be correlated with that of the attendance officer. Experience has shown, we are told, that the main cause of absence from school is ill-health, and hence the necessity for ascertaining the cause of the ill-health, and also for ensuring the child's return to school as soon as it should properly do so. In this matter the work of the medical officer and the attendance officer comes into close relation. In many districts assistance is given by voluntary agencies and care committees, of the value of which a number of the school medical officers speak favourably.

The Arrangements made for Medical Treatment.

Under the heading "Action Taken by Local Education Authorities in Respect of Medical Treatment," Sir George Newman gives some interesting particulars of their work. Thus we learn that 212 authorities employ school nurses, and 127 of these employ their nurses primarily to assist in the work of inspection. Spectacles have been provided at a cost of from 2*s.* to 3*s.* 6*d.* a pair, the parents often contributing to the cost, but experience has shown that the provision of spectacles is not of itself a sufficient remedy for defects of vision, but that other conditions relating to health, the condition of the home and of the school, its lighting, the size and character of the print of books, must all be taken into consideration. The use of X rays for the treatment of ringworm has increased during the year. Some of the authorities arranged to send the children thus affected to a specialist, others made contributions to hospitals or treatment centres not under their direct control, and others again themselves provided the necessary apparatus. The best results were obtained in Bradford, where of 253 cases treated during the year seven only required a second application. For the purpose of treatment of school children found defective by medical inspection, arrangements were made by some authorities with local hospitals, and these, when found satisfactory, were approved by the Board. It is clear that local education authorities undertaking schemes for medical treatment, whether predominantly "hospital" or predominantly "clinic," should consider: (1) the degree in which the scheme is adequate to the needs of the area; (2) the means taken to secure prompt and continuous attendance at the hospital or clinic without avoidable "leakage," and with satisfactory arrangements for following up; (3) the efficacy and economy of the treatment provided; (4) satisfactory arrangements for after-care, supplementary treatment, and subsequent provision; and (5) the degree in which the treatment scheme is coördinated with the school medical service of the area, particularly in its relation to inspection and re-inspection. The report gives an account in some detail of the arrangements made in London, and shows that, broadly speaking, they are now designed to meet in a substantial degree the above desiderata.

School Clinics.

The next subject to which we desire to refer in our present notice of Sir George Newman's report is that of school clinics. The institution of school clinics is the outcome of routine inspection of children in the schools. The clinic provides a place where a more complete examination can be made of children found or suspected to be suffering from defect of constitution or health, and it may provide a place where this defect is treated. Sir George Newman defines the inspection clinic as "a place for further examination as well as a clearing house," and he tells us that in 1911 there was a great extension of its work, and that "the value of the work of medical inspection in the schools has been much enhanced thereby." He believes that the fuller the development of the inspection clinic the wider is the knowledge of the school medical officers in regard to the medical problems presented by the children of school age, and he says that "the institution of inspection clinics has indirectly led to a large amount of treatment, both of a general and specific character." In support of this view he cites statements in the reports of several school medical officers which tell of their usefulness.

Referring especially to large cities, he says they should be organised in districts, and that no arrangements for the isolated treatment of defects can be considered as satisfactory substitutes for an organisation which, though simple in method, is comprehensive in dealing with the child's needs as a whole. He describes briefly the accommodation which should be provided. No elaborate structure or equipment is needed. Well-lighted rooms, scrupulously clean, are required, providing separate accommodation for children with contagious skin conditions and for differentiation of children who have recovered from infectious disease. He points out that in most areas there is perhaps the greatest need for the treatment of minor ailments, including under this description the common forms of skin disease, such as sores of all kinds, impetigo, scabies, pediculosis, ringworm, cuts, and bruises; external eye diseases, such as blepharitis and conjunctivitis, and discharge from the ears. This list of maladies, which we have quoted from Sir George Newman's report, would give ample material for a clinic related to any considerable population. That the list may be largely extended is obvious. Question arises by whom it should be officered. Sir George Newman considers that while the supervision and control of the medical work should be in the hands of the school medical officer, the actual work of treatment can be undertaken either by members of a whole-time medical staff of the authority or by part-time practitioners specially appointed for the purpose. The experience derived from general practice affords a better basis for the work of treatment in a school clinic than any other, and it is certain to our mind that development should take place along this line. The circumstances of some areas have to be specially considered, and some of the maladies which have to be treated may require particular provision, but for the greater proportion of the maladies which require medical aid there must be advantage in employing the services of medical practitioners in the district. Sir George Newman gives no dissent from the employment of the general medical practitioner; indeed, we think we may say that the Board of Education evidently recognises the advantages which attach to the adoption of this method of officering the school treatment clinic. Particulars are given in the report of the arrangements made in a few treatment centres. Thus we learn that in Abertillery the work is carried out by the school medical officer; in Bradford it is undertaken by the whole-time medical staff of the authority. In Wandsworth the treatment centre belongs to local medical practitioners, and two surgeons have been appointed to undertake the eye cases, while three surgeons have been attached to the aural department, and each surgeon operates once a fortnight. Dental treatment appears to be included among the branches of work in several school clinics at the present time.

The Work of the School Medical Officer.

Perhaps some of the most important of the pages in Sir George Newman's report are those in which he introduces a discussion of the physical condition of school children. He appeals very forcibly to school medical officers to appreciate in its true relation the nature of the work upon which they are engaged, and insists *upon* the value of their work depending upon their ability to detect the beginnings of disease It is necessary, he says, that under present circumstances their attention should be directed to the detection and amelioration of gross defects, but it is important that they should also consider disease in its earliest and less recognised aspects This, no doubt, requires considerable skill and experience, but it is of the first importance, and Sir George Newman properly claims that no considerations of the alleged monotony of [illegible] or of the greater importance o [illegible] scheme, or of the inadequacy [illegible] as reasonable excuse for indifferent or slovenly work He claims that what is needed is not only a higher degree of clinical study and investigation, but a more thorough appreciation of disease as a crippling agency, and he gives [illegible] upon the school medical officer's professional work and upon his capacity as a practical administrator, *the professional* work calls for imagination as well as clinical ability, exact observation, and experience the school doctor learning to understand much more fully than hitherto the sequelæ of *even minor morbid conditions*, the administrative work demands a wide knowledge of the circumstances of the case and of what is expedient, practicable, and reasonable in the way of remedy and prevention For work in both directions better professional *training, greater skill and knowledge are* available than some years ago, and no one can doubt the devotion of the younger members of the medical profession upon whom the duties mainly devolve We have no hesitation in saying *confidently that the care and clinical skill demanded* by Sir George Newman will be forthcoming

THE HEALTH OF THE NAVY IN 1911

Continued Improvement in Health

THE strength of the Royal Navy in the year 1911 amounted to 117,100, of which number 79,520 were serving in the Home Fleet or on the Home Station, the remaining 37,580 being distributed in the seven fleets and squadrons serving abroad The health *of the naval force as* a whole shows a continuous improvement as compared with the average of the preceding five years, 1906–10 Thus, the number of cases of sickness has decreased from 679 9 per 1000 strength to 652 9, *the daily sick from* 28 07 to 27 07, the deaths from 3 35 to 3 12, and the invaliding from 16 44 to 15 94 It is true that these reductions are not very pronounced, neither is the improvement general throughout the entire force But for the men serving in the Home Fleet and Home Station, forming about two-thirds of the whole, there is an improvement in every item, except in the daily sick ratio for the latter, and the invaliding ratio for the former, which have increased to a very slight extent The highest admission ratio, 876 per 1000, occurred on the East Indies Station, but this was much below the five year average (1040), the deaths on this station (10 per 1000) were, however, in excess of the average (8·76) The highest ratio of daily sick, amounting to 40 32 per 1000, was, as usual, among men of the Irregular List, including crews on passage to and from foreign stations and on the west coast of America Next comes the Home Station, with a daily average of 35 85, while the healthiest command was that of North America and the West Indies, with a ratio of 19 84 The Home Fleet had, as usual, a much lower sick rate, 23 36, than the men on the Home Station just mentioned the latter body including depôts and training ships, the hospitals at home, and the Royal Naval College at Greenwich

The chief causes of admission to hospital were venereal affections, amounting *to 115 per 1000 of strength* This shows but slight improvement on the average ratio for 1906–10, which was 121 The daily sick from this cause numbered 7 21 per 1000, which is rather better than the quinquennial *ratio of 8 01 The group of digestive diseases,* with 114 per 1000 admissions, came next Tuberculosis (2 44 cases per 1000) was slightly above the previous average of 2 02, and rheumatic fever with 7 61 was also higher than the average (5 83) On the other hand, pneumonia (3 88) and malaria (3 52) were less prevalent, and Mediterranean fever, with 6 admissions throughout the whole navy, was practically absent The most fatal disease was tuberculosis, causing 38 deaths (0 32 per 1000), after which came enteric fever and pneumonia, each with 30 deaths (0 25 per 1000) and organic heart disease with 29 deaths Enteric fever and tuberculosis were slightly more fatal than during the previous quinquennium The chief causes of invaliding were heart disease (2 50), nervous diseases (2 40), and tuberculosis (2 02 per 1000) None of these ratios are reductions on the previous average

On comparing the figures of the different naval commands we find, as already mentioned, that the East Indies Station suffered most from sickness, the force having an admission ratio of 876 per 1000, with 36 [illegible] deaths Malaria caused 70 4 [illegible] 28 7, the other chief cause [illegible] diseases and affections of the skin and connective tissue The healthiest commands were the North American and West Indies Station with 565 8, and the Home Fleet with 569 1 *admissions per 1000*

Prevalence of Chief Diseases

The most important diseases may now be considered in *regard to their prevalence* and distribution *Influenza* caused less sickness (1364 cases) than has been usual of late years, the admission ratio being 11 64, compared with 24 46 in the previous quinquennium There were 2 deaths *Cases occurred in all the commands (except the Cape),* but it was mostly of a mild type There were 172 cases of *diphtheria*, of which 155 were admitted on the Home Station, the type must have been very mild, as not a *single case was fatal* Of *these cases* 116 *occurred at the* Shotley training establishment in the autumn, the disease prevailed somewhat in the neighbourhood of the depôt, and throughout Suffolk generally There was also some prevalence *at Devonport among the civil population during the latter* part of the year, when 20 cases were admitted on the *Impregnable*

Enteric fever caused 137 admissions and 30 deaths, the only outbreak in which a sequence of cases occurred was on board the *Argyll*, belonging to the Atlantic Fleet, but stationed in home waters, careful inquiry led to the conclusion that in all the seven cases infection was contracted when on leave ashore Plymouth being held responsible for four cases *Mediterranean fever* is now practically extinct in the navy; there were only six admissions during the whole year One of these, in the Home Fleet, was of doubtful diagnosis, the remaining five were on the Mediterranean station, three being Englishmen and two Maltese The two latter "had presumably both drunk unboiled goats' milk at their homes", one of the other cases acknowledged to have done so at his home in Malta one month before admission *Pneumonia* caused 3 88 admissions and 0 25 death per 1000, compared with the quinquennial averages of 4 41 and 0 34 respectively A series of 14 cases, epidemic in character, occurred on the *Bellerophon* between Feb 14th and March 5th, while serving in the Home Fleet, though it is not stated where she was stationed The cases were characterised by early and marked cardiac depression, with a tendency to cerebral symptoms

Malaria was much less prevalent in 1911 than has been the case recently, the admissions were in a ratio of 3 52 per 1000, compared with 5 03, the quinquennial average *On the* East Indies Station the cases were *70 43* per 1000, compared with 142 4 the preceding quinquennial ratio, many of the cases were recurrent attacks of previous infection contracted in the Persian Gulf, there was little fever at Bombay *A series of 45 cases of malaria occurred* among landing parties from the *Brilliant* and *Melpomene* during the revolution in Honduras in January, mostly of the malignant tertian variety On the other hand, a party of 52 officers and men were landed for duty and exposed to infection in a very malarious country for three weeks Quinine was given prophylactically, and mosquito nets used the whole party escaped scot free *Tuberculosis* caused 286 admissions and 38 deaths, giving ratios of 2 44 and 0 32 per 1000, slightly below the quinquennial ratio, the sick berth staff, with 6 82 per 1000 admissions, and ship s cooks, with a ratio of 5 52, suffered much more than the others, for seaman ratings the admissions were 2·4 per 1000. *Venereal diseases*, as already mentioned, showed some, though slight, improvement on recent years; chancroid and gonorrhœa admissions, with ratios of 20 and 64 per 1000 respectively, are indeed slightly in excess of the quinquennial average; and secondary syphilis (25·2) is but very slightly less than the average (28·9), but the primary disease, with 5·61 cases per 1000, and 0·23 daily sick, has been much less frequent than hitherto. The quinquennial ratios were 10·79 and 0·78 respectively. The invaliding ratio (0·52) has also diminished compared with the previous average (0·94).

Only 83 cases of alcoholism were admitted from the whole force of 117,100. This works out at 0·7 case per 1000, a substantial reduction on the five-year average of 0·96. There were 218 cases of poisoning, of which 150 were due to ptomaines, a large increase over recent years, and 2 deaths resulted from this cause; 30 cases were caused by eating periwinkles obtained from beds in the Medway On board the *London*, of the Atlantic Fleet, there were 3 cases, 1 fatal, after eating fish cakes and tinned peas; 14 cases on the *Fantome*, of the Australian Station, were attributed to prawns; and 14 men on the *Pyramus*, of the same station, were attacked five hours after eating a meal of corned beef (not tinned).

The appendix contains a paper by Fleet-Surgeon P. W. Bassett-Smith on the Serum Diagnosis Test for Syphilis, and three other communications of professional interest.

ASYLUM REPORTS.

Report of the Inspector-General of the Insane of New South Wales for the Year 1911.—The largest number of patients yet recorded was admitted for treatment at the various hospitals of New South Wales. The number of admissions during the year was 1247, of whom 1061 were admitted for the first time. The increase is, in part, explained by the increase of the population in the State, but is somewhat greater than this alone would account for. The number of patients discharged recovered was 459, equal to a rate of 36·81 per cent. on the admissions and readmissions. In this return, however, are included the figures from the Hospital for Imbeciles at Newcastle. Excluding Newcastle, the recovery rate is 37·35 per cent. The number of deaths was 485, giving a percentage of 8·06 on the average number resident. The chief causes of death were general paralysis, general diseases of the brain, epilepsy and convulsions, and diseases of the lungs. It appears that for some time there has been a growing need for alteration in some parts of the Lunacy Act. The most pressing points requiring alteration appear to be provisions for defining the powers conferred by the Act in regard to the control of insane patients outside hospitals for the insane and licensed institutions and provision for the admission of voluntary patients to hospitals for the insane and licensed houses. A number of patients who are aware of their mental condition go to the hospitals seeking admission as ordinary patients. In many cases the illness is not sufficiently advanced to require certification, and in others the patient or his friends resent certification. At present there is no provision in the Act to permit of the admission of such patients, and in consequence they have to remain without treatment until their cases are further developed, with the result that curable conditions sometimes pass into those that are incurable. Provision is further required for placing on a proper footing the manner in which insane patients may be continued under care in private houses.

Mental Hospital of the City of Cardiff (Annual Report for the year 1911.)—The average daily number resident during the year was 697. There were admitted 232 patients, as against 208 patients during the previous year. The discharges numbered 166, and of these 105 were discharged recovered, the recovery rate being 60 per cent., a very remarkable one. Dr. Edwin Goodall, the medical superintendent, has looked through the recovery rates of 63 asylums since their opening. He finds a recovery rate of 60 per cent. only reached three times, and a rate from 50 per cent. to 60 per cent. 14 times. He regards such abnormally high rates in institutions compelled to receive all cases as due mainly to some unusually favourable circumstance, or combination of circumstances, not under control; and only to a lesser extent to treatment. Nearly 64 per cent. of the patients were in residence for not more than eight months. The deaths numbered 77, or 12·2 per cent. and 9·9 per cent. of males and females respectively. Post-mortem examinations were held in 72 of the deaths. A further extension of the physiological and pathological departments is contemplated, and Dr. Goodall appends to his report interesting abstracts of the research work during 1911 by himself and his colleagues.

Annual Report on Certification of Lunatics and Observation Wards, 1911–12 (by Mr. John Carswell, certifying physician in lunacy to the Glasgow parish council).—The parish of Glasgow has a population of 579,000. It is the statutory duty of the parish council to make provision for the medical examination of supposed lunatics, for the removal to asylums of persons certified to be insane, and for the maintenance of patients in asylums. When intimation is received by the inspector of poor that a person is in need of attention on account of mental disorder he immediately notifies the certifying physician in lunacy, who forthwith visits the patient. After medical examination the patient is removed by the inspector's assistants either to the observation wards or to the asylum, as the medical officer advises. Patients removed to the observation wards are not placed under any certificate implying insanity, and they are under no compulsion to go to the observation wards. During the year which ended on May 15th, 1912, there were dealt with 1138 cases. Of these, 333 were certified and removed directly from their homes to the asylum; 242 were treated for a time in the observation wards and subsequently certified; and 454 patients were treated in the observation wards and were subsequently discharged recovered or improved or died. The types of cases which are regarded as qualifying for admission to the observation wards are: (*a*) Where the mental symptoms are a sequel or accompaniment of diseases that in ordinary circumstances terminate within a definite time. (*b*) Where, although the mental symptoms would seem to indicate lunacy, the medical officer is of opinion that such symptoms are likely to be of short duration. (*c*) Where the patient's mental state gives rise to apprehension, but where the symptoms are not sufficiently marked to enable the certifying physician to affirm either sanity or insanity. (*d*) Where the mental disorder is associated with alcoholic abuse. (*e*) Senile cases where there are temporary symptoms of mental derangement, which make it undesirable that the patients should be treated in a general hospital ward. Indeed, the main object of the hospital is to provide a probationary curative hospital for incipient and recoverable forms of mental disorder. We wish there was a greater tendency to follow the excellent example set by the Glasgow Parish Council.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Meeting of the Council.

A quarterly meeting of the Council was held on Jan. 9th, Sir Rickman J. Godlee, the President, being in the chair.

The best thanks of the Council were given to Mr. Harold Peake for his gift of a collection of skulls and skeletons of Anglo-Saxons of the seventh century, found near Newbury.

The best thanks of the Council were given to Mr. H. E. Juler, F.R.C.S., for presenting 150 specimens illustrating diseases and injuries of the eye. The best thanks of the Council were also given to Dr. T. Colcott Fox for presenting a series of cultures of fungi associated with diseases of the skin.

In response to a request from Sir Henry A. Miers it was resolved to place the lecture theatre at the disposal of Mr. F. W. Twort, superintendent of the Brown Institution, for a course of five lectures on Jöhne's disease.

The following resolutions received from a special committee of the Council were adopted:—

1. That the general hospitals with medical schools be advised each to [illegible] for tuberculosis, such department to form part [illegible] the hospital.

[illegible] with medical schools should consider the advisability of applying for provisional "approval" as regards sanatorium benefit.

3. That in localities where it is possible the services of consulting physicians and surgeons should be utilised for consultation in cases of tuberculosis under the Insurance Act.

VITAL STATISTICS

VITAL STATISTICS FOR 1912.

The following statement shows the birth- and death-rates and the rates of infantile mortality in England and Wales and in certain parts of the country during the year 1912, the figures being provisional:—

—	Annual rates per 1000 living.			Deaths under one year to 1000 births.
	Births.	Deaths.		
		Crude	Corrected.*	
England and Wales	23·8	13·3	13·3	95
95 large towns, including London	24·9	13·8	14·6	101
146 smaller towns	23·8	12·4	13·0	99
England and Wales less the 241 towns	22·6	12·9	12·1	86
London...	24·7	13·3	14·3	90

* The corrected death-rates are the rates which would have been recorded had the age and sex constitution of the populations of the several areas been identical with that of England and Wales as [illegible] ns applied to the crude rates have [illegible] nstitution of the populations of the [illegible] are, therefore, only approximately

The figures relating to London have been added since 1910. It will be noted that the statistics now deal with 95 great and 146 smaller towns, instead of *with 77 great towns and* 136 smaller, as in previous years. The birth-rates and death-rates have alike decreased in every section save one—the birth-rate in the smaller towns shows a fractional increase.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,764 persons, 8305 births and 5657 deaths were registered during the week ended Saturday, Jan. 18th. The annual rate of mortality in the 95 or 96 towns, which had been 15·1, 15·7, and 15·4 per 1000 in the three preceding weeks, rose to 16·5 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in these large towns averaged 15·9 per 1000, against 16·0 in London during the same period. The death-rates in the several towns ranged from 7·5 in Tottenham, 8·6 in Gillingham, 8·9 in Darlington, 9·0 in Wimbledon, and 9·1 in Great Yarmouth, to 23·8 in Carlisle and in Aberdare, 24·1 in Ipswich and in Wigan, 27·3 in Dudley, 27·5 in Rotherham, and 27·6 in West Hartlepool.

The 5657 deaths from all causes in the 96 towns were 372 in excess of the number in the previous week, and included 526 which were referred to the principal epidemic diseases, against 520 and 506 in the two preceding weeks. Of these 526 deaths, 277 resulted from measles, 87 from infantile diarrhœal diseases, 61 from whooping-cough, 59 from diphtheria, 25 from scarlet fever, and 17 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·5 per 1000, and coincided with the rate in each of the two preceding weeks. The deaths attributed to measles, which had declined from 336 to 268 in the three preceding weeks, slightly rose to 277 last week, and caused the highest annual death-rates of 3·8 in Sheffield, 4·0 in Swindon, in Barrow-in-Furness, and in Stockton-on-Tees, 4·2 in St. Helens, 4·4 in Preston, 4·6 in Wigan, 5·3 in Edmonton, and 6·1 in South Shields. The deaths of infants under 2 years of age referred to diarrhœa and enteritis, which had been 65, 78, and 72 in the three preceding weeks, rose to 87 last week, and included 31 in London, 6 in Liverpool, 5 in Stoke-on-Trent, 5 in Manchester, and 3 in West Ham. The fatal cases of whooping-cough, which had declined from 64 to 55 in the four preceding weeks, rose to 61 last week; 16 deaths were recorded in London, 5 in Liverpool, 4 in Blackburn, and 3 in Rotherham. The deaths attributed to diphtheria, which had been 52, 42, and 64 in the three preceding weeks, fell to 59 last week, and included 9 in London, 6 in Portsmouth, 4 in Liverpool, 4 in Manchester, and 3 in Leeds. The deaths referred to scarlet fever, which had increased from 21 to 32 in the three preceding weeks, declined to 25 last week, of which number 9 were registered in London and 7 in Birmingham. The fatal cases of enteric fever, which had risen from 9 to 15 in the *four preceding weeks, further rose to* 17 last week, and included 3 in London, and 2 each in Birmingham, in Manchester, and in Salford.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospitals, which had been 2112, 1954, and 1889 at the end of the three preceding weeks, had further declined to 1828 on Saturday last; 204 new cases of this disease were admitted to these [illegible] 191, 170, and 202 in the [illegible] itals also contained on [illegible] 810 of measles, 257 of [illegible] fever, but not one of [illegible] all causes in London were 103 in excess of the number in the previous week, and were equal to an annual death-rate of 16·5 per 1000. The deaths resulting from diseases of the respiratory system, which had steadily risen from 285 to 311 in the four preceding weeks, further rose to 353 last week, and were 50 above the number recorded in the corresponding week of last year.

Of the 5657 deaths from all causes in the 96 towns last week, 165 resulted from various forms of violence and 446 were the subject of coroners' inquests. The causes of 63, or 1·1 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified last week in Manchester, Leeds, Bristol, Bradford, Newcastle-on-Tyne, Nottingham, Portsmouth, Salford, and in 60 other smaller towns. The 63 uncertified causes of death included 11 in Liverpool, 6 in Birmingham, 4 in St. Helens, 4 in Gateshead, and 3 each in London, in Bootle, in Southport, in Preston, and in Carlisle.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,259,400 persons at the middle of this year, 1211 births and 802 deaths were registered during the week ended Saturday, Jan. 18th. The annual rate of mortality in these towns, which had been 17·1, 17·6, and 17·3 per 1000 in the three preceding weeks, rose to 18·5 per 1000 in the week under notice. During the first three weeks of the current quarter the mean annual death-rate in the Scotch towns averaged 17·8, or 1·9 per 1000 above the rate which was recorded in the 96 large English towns during the same period. Among the several Scotch towns the death-rates last week ranged from 13·5 in Hamilton and in Kilmarnock, 15·3 in Motherwell, and 16·1 in Falkirk, to 20·7 in Paisley, 25·5 in Greenock, and 27·5 in Ayr.

The 802 deaths from all causes were 54 in excess of the number in the previous week, and included 64 which were referred to the principal epidemic diseases, against 66 and 57 in the two preceding weeks. Of these 64 deaths, 36 resulted from whooping-cough, 10 from diphtheria, 10 from infantile diarrhœal diseases, 5 from scarlet fever, 2 from enteric fever, and 1 from measles, but not one from small-pox. These 64 deaths from the principal epidemic diseases were equal to an annual death-rate of 1 5 per 1000, and coincided with the rate in the 96 large English towns. The deaths attributed to whooping-cough, which had been 18, 29, and 30 in the three preceding weeks, further rose to 36 last week, and included 26 in Glasgow and 3 in Leith. The deaths referred to diphtheria, which had been 5, 13, and 10 in the three preceding weeks, were again 10 last week, of which number 7 occurred in Glasgow. The fatal cases of diarrhœa and enteritis (among infants under two years of age), which had been 8, 11, and 7 in the three preceding weeks, rose to 10 last week, and comprised 5 in Dundee, 4 in Glasgow, and 1 in Kilmarnock. The 5 deaths attributed to scarlet fever, of which 4 were recorded in Glasgow and 1 in Dundee, were equal to the average in the four preceding weeks. The 2 fatal cases of enteric fever were registered in Aberdeen and Clydebank respectively, and that of measles in Falkirk.

The deaths referred to diseases of the [illegible] system conclusion, it may be stated that the aggregate mortality in London during December from the principal infectious diseases, excluding diarrhœa, was 31·5 per cent. above the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet Surgeon: J. McElwee to the *Carnarvon*, on transfer of flag. Staff Surgeons: T. H. Vickers to the *Blanche*, on recommissioning; N. B. V. Jacob to the *Vivid*, additional, on transfer of flag; F. Bolster to the *King Alfred*, on transfer of flag, and to the *Hecla;* and A. J. Sheldon to the *Philomel*. Surgeon: W. L. Cowardin to the *Carnarvon*, on transfer of flag.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Edwin Eckersley, from supernumerary, is restored to the establishment, vice G. Wilson, retired (dated Jan. 20th, 1913).

Surgeon-General L. E. Anderson has arrived home for duty from India on transfer to the Home Establishment.

Colonel R. Kirkpatrick, C.M.G., Assistant Director of Medical Services at Bloemfontein, South African Command, has been placed under orders for transfer to India. Colonel A. E. Tate has taken up duty at Allahabad as Assistant Director of Medical Services to the Allahabad and Fyzabad Brigades of the Eighth (Lucknow) Division.

Lieutenant-Colonel J. S. Green, on return home from a tour of service in India, has been appointed to the Irish Command for duty. Lieutenant-Colonel H. J. Fletcher has been transferred from Abbottabad to Sialkot and appointed to hold charge of the Military Hospital. Lieutenant-Colonel Sir W. B. Leishman has been selected for appointment as Honorary Physician to His Majesty the King in succession to Surgeon-General G. D. Bourke, C.B., retired. Lieutenant-Colonel B. Forde, in charge of the Detention Hospital at Deepcut, Aldershot Command, has been placed under orders for transfer to Salisbury Plain District to hold charge of the Military Hospital at Bulford Camp in succession to Lieutenant-Colonel C. W. Johnson. Lieutenant-Colonel H. E. Cree has taken over charge of the Cantonment Hospital at Subathu, Simla Hill District, Third (Lahore) Division.

Major G. J. S. Archer has been appointed for duty to the Southern Command on transfer to the Home Establishment by exchange from Burma. Major H. M. Nicholls, in charge of the Military Hospital at Deolali, has been granted six months' leave of absence home from India. Major T. B. Unwin has been transferred from the London District to Caterham and appointed to hold charge of the Military Hospital. Major E. W. Powell has taken up duty at Ballincollig on transfer from Kilworth. Major F. W. Begbie has been selected by H.E. the Commander-in-Chief in India for appointment as Specialist in Advanced Operative Surgery to the Fifth (Mhow) Division. Major R. B. Black has arrived home on leave of absence from Egypt. Major D. J. Collins, Specialist Sanitary Officer to the Dublin District, has embarked for a tour of service in India. Major C. W. H. Whitestone, Deputy Assistant Director of Medical Services for Mobilisation in the First (Peshawar) Division, has been transferred from Cherat to Peshawar. Major A. D. Waring, on return home for duty from Hong-Kong, has been appointed to the Southern Command for duty. Major W. J. Taylor has been transferred from the Military Hospital at Colchester to Bedford, and appointed to officiate in charge of the Military Hospital and Recruiting Medical Officer at the Depôt of the Bedfordshire Regiment during the absence on leave of Lieutenant-Colonel G. F. Poynder. Major A. C. Fox has been transferred from the Military Hospital at the Curragh Camp, Kildare, to Dublin. Major E. Brodribb has taken up duty at the Military Hospital, Dover, on transfer from Shorncliffe.

Captain R. J. Franklin, in medical charge at Fort Camden, Queenstown, Cork District, has been placed under orders for service in India. Captain F. W. Lambelle, specialist in advanced operative surgery to the Fifth (Mhow) Division, has been appointed for duty to the Station Hospital at Maymyo, Upper Burma, on permanent transfer. Captain C. R. M. Morris, on return from a tour of duty at Sialkot, has been appointed to the Southern Command. Captain G. F. Rudkin, staff surgeon at Fort St. George, Madras, and medical officer to H.E. the Governor's Body Guard, has been granted eight months' general leave of absence home from India. Captain J. W. S. Seccombe has been transferred from the Military Hospital at Devonport to Taunton for duty. Captain A. L. Foster has joined the Military Hospital at Rawal Pindi on transfer from Kalabagh Cantonment, Murree Hill District. Captain M. P. Leahy, medical officer to the Ordnance Establishment and Section Hospital at Kirkee, has arrived home on six months' leave of absence from India. Captain C. Pyley has embarked for a tour of duty at Bermuda. Captain G. De la Cour has been placed under orders to join the Irish Command, and on arrival will be appointed to the Dublin District for duty. Captain J. E. H. Gatt has been transferred from the Military Hospital at Benares to Cawnpore Cantonment for duty. Captain F. W. M. Cunningham has joined the Station Hospital at Kuldana, Murree Hill District, on transfer from Rawal Pindi Cantonment. The following officers have joined the Royal Army Medical College, Grosvenor-road, S.W., for the promotion courses from the rank of Captain to that of Major:—Captains W. C. Nimmo (from Chatham), M. Keane (Colchester), C. F. White (Portland), F. C. Sampson (Barry Camp), T. S. Blackwell (Athlone), P. J. Marett (Gravesend), A. D. O'Carroll (Bulford Camp), W. C. Smales (Poona), T. C. C. Leslie (Youghal), and H. M. J. Perry (Woolwich).

Lieutenant J. M. Weddell, on arrival in India from the London District, has been appointed to the Eighth (Lucknow) Division. Lieutenant C. H. Stringer has been transferred from Rollestone Camp, Salisbury Plain, to the Royal Victoria Hospital, Netley. Lieutenant L. C. Hayes has left the London District for duty in Bermuda. Lieutenant V. P. Hutchinson, on arrival in the South African Command, has been attached to the Military Hospital at Pretoria. Lieutenant P. A. With has been transferred from the Military Hospital at the Curragh Camp to Kilbride. Lieutenant E. G. S. Cane, at present stationed at Dublin, has been placed under orders to embark for service in India.

INDIAN MEDICAL SERVICE.

Colonel H. St. Clair Carruthers, Inspector-General of Civil Hospitals in Burma, has arrived home on eight months' combined leave of absence from Burma. Colonel B. B. Grayfoot has taken up duty as Assistant Director of Medical Services to the Derajat and Bannu Brigades of the Eighth (Lucknow) Division.

Lieutenant-Colonel S. H. Henderson, Officiating Inspector-General of Prisons in the United Provinces, has arrived home on 13 months' leave of absence from India. Lieutenant-Colonel D. T. Lane has taken up duty as Civil Surgeon at Ambala on return from leave of absence. Lieutenant-Colonel A. R. S. Anderson has been selected to officiate as Civil Surgeon at Dacca, in succession to Lieutenant-Colonel E. A. Hall, granted furlough.

Major T. H. Foulkes has been selected by the Foreign Department for appointment as Physician to the Mysore Durbar. Major P. St. C. More has taken up duty as Civil Surgeon at Sialkot on return from leave of absence. Major E. J. O'Meara has been selected for appointment as a Fellow of the Allahabad University. Major J. G. G. Swan, civil surgeon at Dalhousie, has been placed under orders for transfer to Jullundur for appointment as Civil Surgeon. Major J. W. Lethbridge has been granted 15 months' leave of absence home from India by the Foreign Department. Major C. F. Weinman, civil surgeon at Dinajpur, has been granted furlough. His Majesty the King has been graciously pleased to appoint Major James Davidson to be a Companion of the Distinguished Service Order (D.S.O.) in recognition of his services in connexion with the military operations against the Abors on the North-Eastern Frontier of India. Major W. H. Tucker has taken up duty as Physician to the Travancore Durbar under the Foreign Department. Major G. Bidie has been granted six months' extension of his leave of absence home from India on medical certificate.

The Chief Commissioner of the Central Provinces has been pleased to appoint Captain E. P. Wernicke, officiating civil surgeon at Hoshangabad, to the executive and medical charge of the Hoshangabad District Jail. Captain F. P.

Mackie has been placed upon special duty under the orders of the Director-General of the Indian Medical Service. Captain K. S. Singh, on return to duty from leave of absence, has been appointed Plague Medical Officer at Amritsar. Captain J. J. Robb has been granted combined and study leave of absence for one year and 14 days home from India. Captain A. W. Hewlett, officiating superintendent at the Central Prison, Agra, has been placed on special duty, under the orders of the Government of India. Captain F. H. Salisbury has taken up charge as Superintendent of the Central Jail at Dacca, in succession to Major E. R. Parry. Captain C. A. F. Hingston has arrived home on leave of absence from India. Captain W. T. McCowen has been promoted to the brevet rank of Major, in recognition of his gallant services during an attack on a squadron of his regiment in Persia. Captain J. McPherson has been selected by the Foreign Department for appointment as Medical Officer in charge of the Mewar Bhil Corps. Captain P. M. Rennie has been granted an extension of leave of absence for five months for study purposes. Captain H. B. Scott has been appointed to officiate as Resident Medical Officer in the General Hospital, Rangoon, in succession to Captain S. T. Crump, granted leave of absence. Captain E. C. Taylor, officiating agency surgeon of the second class, has been deputed to the Central Research Institute at Kasauli for special duty in the Bacteriological Department. Captain L. Reynolds and Captain E. S. Phipson have arrived home on leave of absence from India. The services of Captain A. J. H. Russell have been placed temporarily at the disposal of the Government of Madras Presidency. Captain H. Watts, officiating civil surgeon at Betul, has been appointed to the Executive and Medical Charge of the Betul District Jail. The services of Captain A. S. Leslie, superintendent of the Central Jail at Rangoon, Lower Burma, have been replaced at the disposal of the Home Department of the Government of India.

H.E. the Commander-in-Chief in India has appointed Lieutenant G. Tate to be Specialist in Midwifery and Diseases of Women and Children to the Fifth (Mhow) Division of the Southern Army.

Territorial Force.

Royal Army Medical Corps.

1st Home Counties Field Ambulance, Royal Army Medical Corps: Duncan Matheson Johnston to be Lieutenant (dated Jan. 18th, 1913).

3rd Scottish General Hospital, Royal Army Medical Corps: Major Thomas K. Dalziel to be Lieutenant-Colonel (dated Dec. 16th, 1912). Captain William MacLennan to be Major (dated Dec. 16th, 1912)

2nd Western General Hospital, Royal Army Medical Corps: The undermentioned officers resign their commissions (dated Jan. 22nd, 1913):—Major Edmund T. Milner, Major Judson S. Bury, and Captain James L. Smith. The undermentioned Captains to be Majors (dated Jan. 22nd, 1913):—Arthur H. Burgess, John H. Ray, and George R. Murray.

Attached to Units other than Medical Units.—Lieutenant John Tait to be Captain (dated Dec. 30th, 1912). Lieutenant Thomas N. Thomas to be Captain (dated Dec. 17th, 1912). Lieutenant William H. Newton resigns his commision (dated Jan. 18th, 1913.) Lieutenant Joseph B. Dawson resigns his commission (dated Jan. 22nd, 1913).

For attachment to Units other than Medical Units.—Frank Clayton to be Lieutenant (dated Nov. 18th, 1912.)

Archiv für Schiffs- und Tropen-Hygiene.

In the *Archiv fur Schiffs- und Tropen-Hygiene* Dr. L. Külz has described a myositis purulenta tropica or abscess amongst the muscles, which he ascribes to filaria loa. He has frequently met it in Cameroon, and has himself suffered from it, we are sorry to note. The disease begins with slight pain ascribed to an accident or to a chill, and thought to be rheumatic, but soon becomes serious. Still the patient does his work with little feeling of illness and is surprised to find that his temperature is raised. There are deep tenderness on pressi [illegible] edges, increased faradic [illegible] and leucocytosis. The [illegible] suppurates. The abscess should be opened without waiting *for it to point; if it remain unopened* the pus will burrow and the patient will waste. The first abscess is in the limbs, but never on face, neck, hands, or feet; the secondary abscesses occur anywhere in the muscles. Lymphatic infection is rare. The disease is more common and the abscesses more numerous in natives than in Europeans. Children are not attacked. The treatment is free incision (the pus often bursts out with surprising force and quantity), and then drainage. The wounds heal quickly. Dr. Külz marks the most tender spot and makes his incision over that. Yet it is sometimes difficult to find the focus, hence exploratory puncture is little help. A filaria was once found in an exploratory puncture. The disease occurs in the area of distribution of filaria loa; all the patients had microfilaria diurna in their blood, and some had a history of filaria loa. That is why children who are not attacked by this filaria do not suffer from these abscesses, and the greater severity of the disease in natives than in Europeans is also thus explained. Dr. Külz then states the damage done by filaria loa: (1) filarial œdemas; (2) its presence on the eye; (3) it infects the blood with microfilaria diurna; (4) dying it becomes a foreign body in the muscles and causes tropical muscle abscesses. In the same number Staff-Surgeon Dr. Jaeger gives a very complete account of the demography of the Ebolowa district in South Cameroon. He has evidently won the confidence of the natives, who, in a pleasant fruitful land, numbered some 6000. Of 635 men examined 20 per cent. had gonorrhœa and 3·5 per cent. had chancres. The women used to have on an average 4½ children, but that number is decreasing, partly by abortion, partly perhaps in consequence of prostitution. The infantile mortality is 165. Prominent diseases are malaria, yaws, and intestinal parasites. He suggests that the frequency of yaws may explain the relatively small severity of syphilis. Small-pox has been banished by vaccination, of the usefulness of which the natives are so well aware that they seek it.

ROYAL INSTITUTION OF GREAT BRITAIN.—On *Thursday next (Jan. 30th) Professor B. Hopkinson delivers* the first of two lectures at the Royal Institution on "Recent Research on the Gas Engine," and on Saturday, Feb. 8th, Professor Sir J. J. Thomson begins a course of six lectures on "The Properties and Constitution of the Atom." The Friday evening discourse on Jan. 31st will be delivered by Mr. George M. Trevelyan on "The Poetry and Philosophy of George Meredith," and on Feb. 7th by Sir John Murray on "Life in the Great Oceans."

WEST AFRICAN MEDICAL STAFF DINNER.—The annual dinner of the West African Medical Staff was held at the Walnut Rooms, Grand Hotel, London, on Jan. 15th, *under the genial chairmanship of Mr. J. P. Fagan, formerly* principal medical officer, Northern Nigeria. After the health of the King had been honoured, Sir James Kingston Fowler proposed the toast of "The West African Medical Staff." As a member of the Departmental Committee which inquired into the disadvantages under which the staff laboured, he knew of the admirable work which was being done by members of the staff. Already they had produced a marked diminution in the death-rate and invaliding rate [illegible] *out that the position of the medical officers in relation* to their patients—black and white—and to the various authorities was one of perpetual delicacy. The chairman then proposed the toast of "The Visitors," and coupled with it the name of Sir John Anderson, Permanent Under-Secretary of State for the Colonies, to whom he referred in terms of high appreciation. Sir John Anderson, in reply, spoke of the kindly feeling which he had always had for the West African Service, and gave interesting reminiscences of the old *régime* on the West Coast. He said that, in spite of small numbers and many difficulties, the medical staff had always shown the same loyalty and efficiency throughout the changing conditions. After Dr. W. T. Prout had proposed "Absent Friends" the company reassembled informally in an adjoining room, where the health of "The Chairman" was proposed in an amusing speech by Dr. R. H. Kennan and very warmly received.

working the Act, and that the important minority present at the meeting who were in favour of giving the Act a trial did not succeed in electing their representatives. The grievance of the Handsworth doctors will be removed by coöpting one of their number. It was decided that the Committee should hold office for 12 months.

The Hospital Saturday Fund has not yet suffered to any appreciable extent, and certain firms who at first decided to withdraw are continuing their subscriptions. Most of the important firms are subscribing, and altogether it is not thought that there will be any appreciable falling off in the total amount subscribed.

The various hospitals have decided after Feb. 15th not to treat insured persons except those requiring first aid or treatment which can only be given in a hospital. All patients will be examined, and if not coming in the above categories will be referred to their panel doctors.

Jan. 21st.

SCOTLAND.

(From our own Correspondents.)

The Annual Dinner of the Royal College of Physicians.

The President and Fellows of the Royal College of Physicians of Edinburgh gave their annual dinner in their hall, 9, Queen-street, on Friday, Jan. 17th, when a large number of representative members of the medical profession and guests were present. Dr. J. J. Graham Brown, the President, presided, and the speaking was of a high order at a very successful gathering.

Medical Inspection of School Children in East Lothian.

The school medical inspector, Dr. Buchanan, remarks in his report for last year upon the general improvement noticeable in the condition of children with regard to whom defects had been previously pointed out. Referring to the necessity of keeping the head clean, he mentions that, as it is of course impossible to expect mothers to keep the hair short, much can be done by plaiting it, thus rendering infection much less likely than when the hair is worn loose. Conservative treatment in the way of stopping teeth he considers impracticable for country children, and although the unsatisfactory feeding as a primary cause all through is important, and worthy of every effort for its correction, emphasis should be given to the advisability of brushing the teeth at night as well as in the morning. Referring to the difficulty of obtaining suitable glasses for the children requiring them, he suggests as a remedy the supplying of the medical officer with the requisite testing apparatus, and some arrangement with opticians for the supply of the prescribed glasses at a reasonable rate. He remarks that many children presented by the teachers as suffering from adenoids merely suffer from obstructed nasal passages due to their inability or mere unwillingness to blow their noses properly; every child should, therefore, be provided with a handkerchief of some sort, and should be made to use it properly and reasonably often.

State Insurance amongst Miners.

At a largely attended meeting of Midlothian miners it was, after discussion, unanimously decided to accept the recommendations of the Scottish Miners' Federation regarding the medical attendance on the wives, families, and dependents of members. These recommendations, it will be remembered, are as follows, and have been widely accepted over the country:—

1. That a flat rate be paid by all workers over 16 years of age, half rate between 14 and 16.
2. That, upon the money being deducted at the colliery office, it be lodged at the bank in the name of a committee of workers, who would issue cheques and pay each doctor in accordance with the proportion of persons paying for him.
3. The workers to have absolutely free choice of doctor from the panel.
4. The rate of payment proposed is 1½*d.* per week without medicine, or 2*d.* per week with medicine.

Legacies for Glasgow Infirmaries.

The executors of the late Mr. Edward Davis, of Glasgow, have allotted £40,000 to the Glasgow infirmaries—viz., £15,000 to the Royal Infirmary, £15,000 to the Western Infirmary, and £10,000 to the Victoria Infirmary. The allocation to the other Scottish infirmaries will be made some time in March.

Aberdeen Friendly Societies and the Doctors.

The Aberdeen burgh Local Medical Committee has circularised the local doctors in the following terms:—

> The Local Medical Committee are negotiating with the Friendly Societies regarding the medical treatment of old, and disabled, and other uninsured members of societies, who are earning an income under the income limit, at terms not under those for insured persons. All members of the profession are therefore warned that they must make no private arrangement with such individuals or the societies to which they belong. Recognising the necessity of attending those persons meantime, the Local Medical Committee suggest that any medical practitioner may attend those persons at the rate of 7*s.* per annum without medicine until negotiations are complete.

It is understood that a conference will be held immediately between the Local Medical Committee and the representatives of the Friendly Societies on the question of medical benefit to persons over 65 years of age. The Friendly Societies are willing to give 4*s.* 6*d.* per head, but the doctors desire the same sum as for other insured persons. There is a proposal to group all those persons together and appoint a doctor to give them medical attendance.

Orkney Doctor's Hazardous Journey.

Apropos of the difficulties of medical attendance in the Highlands and islands the following is interesting. On Sunday last a telegram was despatched to Stromness for medical attendance for a crofter on the island of Hoy who lay dangerously ill. There was a heavy gale raging, and no communication between the islands had been possible for days. Nothing short of the lifeboat had a ghost of a chance on the water, so accordingly the local lifeboat, a powerful motor vessel, was manned with a scratch crew and launched, and successfully negotiated the raging sound. A landing had to be effected among the rocks at Hoy, there being no pier. All was done in safety, however, the sick man treated, and a return made.

Extraordinary Case in Aberdeen Infirmary.

An interesting case has recently been treated in Aberdeen Royal Infirmary. A married woman, who was a patient there, was operated upon, when no fewer than 73 ordinary pins, 11 hair-pins, and a small piece of steel were found embedded in the bowel. The woman is unable to account for their presence there, the only possible explanation being that for a considerable period she had during sleep extracted a pin from her nightdress and swallowed it. The patient is recovering.

What Sanatorium Treatment is going to Cost Dundee.

At a meeting of the Insurance Committee, held in Dundee on the 15th inst., the Sanatorium Benefit Committee put forward the [illegible] of expenditure for the year, prepared by [illegible] the medical adviser, in connexion with sanatorium treatment of insured persons:—

Sanatorium treatment during the year of an (estimated) average of 40 insured persons at £1 15*s.* per week ...	£3640
Hospital treatment during the year of an (estimated) average of 60 insured persons at £1 5s. per week ...	3900
Dispensary treatment...	100
Salary of medical adviser, proportion of, say, £500 ...	200
	7840
Deduct grant of 9*d.* for each of, say, 58,000 insured persons	2175
Showing a net estimated deficiency of...	£5665

payable one-half by the Treasury, and one-half by the town council. The proposal was made to reduce the estimate to £1 5*s.* per week for sanatorium treatment, and to 17*s.* 6*d.* per week for hospital treatment. The estimates were, however, finally approved. The number of insured persons in Dundee is 58,630, consisting of 29,160 male and 28,999 female members of Approved Societies, and 352 male and 119 female deposit contributors.

Inauguration of the National Insurance Act in Aberdeen.

Insured persons in Aberdeen are showing great activity in selecting their doctor under the Act. The red ticket is much in evidence, and evidently the impression prevails that it must be presented at the earliest possible moment to the medical man, whether his services are required or not. The work at the infirmary is going on as usual irrespective of whether the patients are or are not insured. A record, however, is being kept of the number of patients who are insured, so that by the end of three months statistics may be available as to what extent insured persons are benefiting from the infirmary

The National Insurance Act in Sutherlandshire

The panel of doctors willing to give service under the National Insurance Act was completed up to time in Sutherlandshire Taking area and population into count the number of insured persons is under the average Up to the present only 3000 slips have been returned by the societies to the Insurance Committee, these being divided between 39 different societies Almost one fifth of the insured population are resident in the Dornoch district As yet not a single application for sanatorium benefit has been received by the County Insurance Committee The deposit contributors do not exceed 50, and even some of those will eventually find their way into societies There are still a few "resisters" in Sutherlandshire, but those must fall into line when liability arises

Jan 20th

IRELAND.

(FROM OUR OWN CORRESPONDENTS)

Upkeep of the Collier Dispensary, Dublin

SOME weeks ago the Dublin corporation took over charge of the Collier Tuberculosis Dispensary from the Women's National Health Association with the intention of making it the centre of the tuberculosis campaign in Dublin It now appears, however, that the corporation, though in possession of the dispensary, has no funds to maintain it It is stated that, no provision having been made in the annual estimates, no funds can be advanced from the rates in the current financial year Before provision can be made there are some three months to run At present it is understood that the members of the staff are unable to obtain their salaries, and there is grave danger of the dispensary being, at any rate temporarily, closed The corporation, being involved in this difficulty, suggests that the blame lies with the Insurance Committee, which was not consulted as to the propriety of purchasing the dispensary and has no share in its management At a recent meeting of the Insurance Committee a letter was read from the corporation demanding monthly payments to cover the cost of maintenance, and more recently the threat was held out that the dispensary would be closed if the committee did not find funds Up to the present no patients have been sent to the dispensary by the Insurance Committee, which therefore repudiates all responsibility It is to be hoped that matters may soon be arranged between the committee and the corporation, as it would no doubt be unfortunate if the dispensary were to be closed The affair is typical of the confusion which exists throughout Ireland on the relations between the administration of the sanatorium benefit and the general campaign against tuberculosis

Honour for a Dublin Physician

His Holiness the Pope has nominated Sir Joseph Redmond, an ex-President of the Royal College of Physicians of Ireland, to be a Knight Commander of the Order of the Holy Sepulchre Sir Joseph Redmond is one of the physicians to the Mater Misericordiæ Hospital, Dublin

Scarlet Fever in Londonderry

On Jan 14th it was stated at a meeting of the Public Health Committee that there was an outbreak of scarlet fever in one small and confined area, 23 cases having been notified in the city The cases are said to be mild

The Belfast Medical Students' Association

At a public meeting on Jan 18th, held under the auspices of the Belfast Medical Students' Association in the McMordie Hall of the Queen's University Students' Union, Dr R A Kerr, the president, gave an inaugural address on "Medical Education before the Medical Act, 1858," and Professor A C Geddes (Dublin) followed with a lecture on "Growth and Growing Old " The usual votes of thanks were passed

Sanatoriums and Dispensaries in Co Londonderry

The maintenance of these institutions will be considered at the February meeting of the county council, but it is clear that no permanent scheme will be settled for the treatment of consumptives until it is decided what contribution the Treasury will make, and also what income will accrue from insured persons in the county Only when these questions are answered can it be decided what amount will have to be raised through the rates to cover the certain deficiencies

Jan 21st

PARIS.

(FROM OUR OWN CORRESPONDENT)

The Responsibility of the Medical Man

IN 1905 a female postal employee, 20 years of age, whose cheeks and chin and neck were disfigured with a thick growth of hair, applied to Dr D , a well known Paris physician, to rid her permanently of the embarrassing encumbrance The doctor subjected his patient to the X rays, and the girl was severely burnt, so that in place of hair her neck is now covered with scars Alleging that the doctor had been culpable in his method of application of the rays, she brought suit against him for 20,000 francs in the Tribunal of the Seine Failing in the lower court, she appealed, and the case, which has been going on for eight years and has given rise to two medico-legal inquiries, was heard on Jan 17th before the Fifth Chamber of the Court The Advocate General held that the liability of the medical man was clearly established, for he had failed in his duty, knowing that he was engaged in procedures intrinsically dangerous by absenting himself for however brief periods in place of exercising unbroken watchfulness over the operation, and, further, that it was his duty to warn the girl that the operation was uncertain and dangerous, which he appeared not to have done

The Acoustics of Meeting Halls

On Jan 14th Dr Castex read a paper before the Academy of Medicine on the relation between the acoustic properties of meeting halls and hearing and phonation Undoubtedly, he said, the acoustics of many halls were excellent, but in other cases they were very bad There were yet others in which the acoustic properties were satisfactory for the audience but deplorable for the speaker on account of the strain imposed on him, and *vice versa* though the reason of these differences was not clear Halls might be bad by reason of deadness, of over resonance, or on account of echo The materials used in construction undoubtedly exercised an influence Wood, glasswork, and marble afforded good resonance draperies bad Stone and plaster were regarded as neutral In course of time moreover, the drying of the material improved its sonorousness Cupolas created unfavourable conditions, which exaggerated resonance Speaking generally, good halls were those in which one of the dimensions exceeded the other Round and square halls were less satisfactory Curiously, the slightly deaf heard less well in certain halls than in the open air

A Beneficent Act

Dr Martel, who in 1912 gained the Barbier prize of the Faculty of Medicine for his method of trephining has generously presented the prize, which amounts to 2500 francs, to the Maison du Médecin

The Treatment of Amœbic Dysentery by Sugar Enemata

According to the researches of M Cohendy, enemata of sugar, combined with appropriate regimen and suitable altitude, are of real efficacy in the treatment of dysentery The enema is prepared by mixing in a vaginal douche 250 grammes of the syrup of sugar of the French codex with three litres of boiled water cooled to 60° C When the bowel is especially intolerant six drops of laudanum are added The whole amount is administered if possible, at one injection, and retained from 20 to 25 minutes by lying first on the back and subsequently on the side When there is excessive weakness an enema is at first prescribed both morning and night When the number of stools is reduced by two thirds only one enema daily is given When the stools have become pasty and do not exceed three in the 24 hours, only one enema every two days is given, in the morning An enema every two days may advantageously be continued for ten days following the re establishment of normal movements

Dentists and General Anæsthesia

Two surgeon dentists have been prosecuted for the illegal practice of medicine, having resorted to general anæsthesia for the extraction of teeth. The decree of the court stated that surgeon dentists who qualified subsequently to the Act of Nov. 30th, 1892, having undergone special and appropriate instruction in surgery, had undoubtedly the right to use anæsthetics for their operations without the necessity of employing a medical man, and that no distinction in this respect existed between local and general anæsthetics. On the other hand, this right imposed on them the observance of all proper precautions, the neglect of which would expose them to civil and penal liability. As both the dentists belonged to the above category they were acquitted.

The Skull of Descartes.

Dr. Paul Richer, professor of anatomy at the Ecole des Beaux Arts, who is a talented sculptor and engraver of medallions as well as a member of the Academy of Medicine and the Académie des Beaux Arts, has completed the investigation imposed on him, in conjunction with M. G. Darboux, for the identification of the alleged cranium of Descartes, by comparing it with the different portraits of the philosopher. On a plaster mould furnished him by the museum Dr. Richer pointed out first the clearly marked distinctive characteristics which correlate this cranium with the portrait of Descartes painted by Franz Hals. M. Richer has pursued this method of comparison as strictly as possible, to reduce to a minimum the influence of the personal equation. His method was to make from the portrait by Hals a drawing of the cranium as closely corresponding thereto as possible. A drawing of the skull in the museum was then made in like manner from exactly the same point and to the same scale, and one drawing was then superposed on the other. The first procedure is one of greater strictness than would at first be supposed, and leaves little room for the influence of the imagination. Indeed, a head presents a certain number of precise bony points of indication which Dr. Richer enumerates, and which are particularly apparent in the painting of the Dutch master. These same points are repeated on the mould of the cranium in the museum. By the help of these marks it was easy to place the cranium of the museum with mathematical precision in the position given by Hals to his sitter, and to determine the exact dimensions of the image that it would be necessary to take of it to make the comparison logical and demonstrative. The superposition of the drawings made respectively from the painting and from the cranium in the museum showed an almost exact correspondence. Other drawings, executed under the same conditions from many crania taken at random, on the other hand, showed notable points of difference from the drawing of the portrait by Hals. The same experiment has been repeated with other portraits of Descartes. The comparison of the skulls thus drawn from these different portraits with that of the museum shows sometimes very striking resemblances, but never so complete an agreement as in the case of Hals's portrait. Leaving aside all historical conclusions, the upshot of Dr. Richer's investigations is that the skull preserved in the museum corresponds almost absolutely with that indicated in the portrait of Franz Hals.

Jan 20th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Effects of School Education on the Health of Children.

THE Austrian Society for School Hygiene is at present making preparations for an investigation on a large scale into the effects which school education produces on the health of children, special attention being directed to two well-recognised sources of mischief—namely, faulty design of school buildings and faulty educational methods. As regards the buildings, which were originally erected for other purposes and subsequently converted into schools (a frequent course of events in Austria), they as a rule are failures from the hygienic point of view on account of their insufficient admission of fresh air, incorrect lighting, and lack of heating arrangements. The second of the two factors above mentioned is perhaps even more important than the first. It has been proved by statistics that whilst over 90 per cent. of all children entering the school at the age of six years have normal sight, myopia makes itself unpleasantly obvious in the second year, and increases so much in the higher standards that in the "Latin schools" and higher schools over 60 per cent. of the pupils have to wear spectacles. It has also been found that anæmia and scoliosis, not the results of infectious diseases, are frequent concomitants of school attendance. The origin of these abnormal conditions is known, and the prevention of them is one of the objects of the society. In the investigation evidence will be received not only from specialists in the diseases of children but also from general practitioners and experts in various branches of medicine, and attempts will be made to trace the subsequent history of children known to have become ill during school-life.

Congress of Medical Officers of Health.

A short time ago the first meeting, or rather Congress, of the Austrian Medical Officers of Health took place in Cracow, and some of the papers read on this occasion were of general interest to the profession. One of them raised the question of that comparatively rare condition, scleroma, and in the ensuing discussion several speakers recommended that it should be included among the diseases subject to compulsory notification. An international conference was also suggested on this subject, the conclusions at which it may arrive to be submitted to the governments of the countries affected by that disease—namely, Austria-Hungary, Germany, Russia, the Balkan States, Spain, and Sweden. Lately, cases have been reported also from the United States of America. The disease seemed to be increasing, but this is perhaps owing only to the better means of diagnosis now at our disposal. An interesting paper dealt with the medical institutions of certain large industrial undertakings There are in Austria several very prosperous factories and industrial corporations whose premises may be regarded as towns in which many thousands of workpeople are employed. Of late a very commendable system has been introduced, under which, in some of them, medical attendance and sanitary dwellings have been provided for the workers. In the paper referred to an account was given of the hospitals, the schools, the medical supervision, the accident or first-aid appliances, and the arrangements made for the care of the infants to be found in these works. Altogether the standard of hygiene attained in them is much higher than anywhere else in industrial or commercial enterprises in Austria. Another paper gave interesting details as regards the methods used in this country for dealing with town refuse. It was stated that the attempts which have been made to obtain electricity or steam power by the burning of this material have not been suc [illegible] and that better prospects are offered by [illegible] of town refuse as fertilisers for agricultu [illegible] seems to be the method of the future for middle-sized towns.

The Increased Cost of Living in Austria.

The steady advance in the cost of all articles of food as well as of house rent is having an injurious effect on the public health, and the fact that a large proportion of the population is underfed has been officially admitted in connexion with the results of recruiting for the army. Austria is being rapidly transformed into a manufacturing country, the agricultural part of the population now forming less than 40 per cent. of the total. The recruits coming from towns are, as a rule, less well fed than those from the country, unless they belong to well-to-do families. An interesting account of the existing conditions has been furnished in a paper written by Mrs. Granitsch, and read before the Union of Austrian Housewives. She quoted official figures of market prices which prove that the cost of all articles of food has gone up within the last six years by an amount ranging from 18 to 40 per cent. Milk has gone up 30 per cent.; meat, 40 per cent.; sugar, 25 per cent.; flour, 25 per cent; vegetables, 50 per cent.; and fruit, 30 per cent. Among the lower middle class in the population of Vienna the average consumption of meat has gone down to about three ounces per head, because people have "to keep up appearances." The infant mortality has gone up in the same classes to 24 per cent. of all births, whilst the labouring classes, who can spend comparatively more of their income on food, show an infant mortality of 17 per cent. House rent has also gone up during the same period to the extent of 30 or even 100 per cent. Overcrowding, with its natural consequences, tuberculosis and increase of infectious disease, is inevitable.

Jan. 20th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

University Reform.

THE Royal Commission upon University Reform has just concluded its labours. The *Tribuna* publishes a long interview with the Senator, Professor Durante, as to the conclusions of the Commission. The members were totally [illegible]

State exam[illegible]

the local pro[illegible] minority ad[illegible] body composed of all the best teachers in the kingdom, and, with Rome for its headquarters. One advantage of this proposal, according to Professor Durante, would be the natural extinction of the superfluous and less compet[illegible] to co[illegible] centr[illegible] tion [illegible] unive[illegible] stude[illegible] centr[illegible] plan [illegible] and [illegible] must [illegible] Higher Council of Education the Minister maintains them at [illegible] al to their [illegible] ment upon [illegible] members [illegible] the same [illegible] nce these [illegible] have an interest that the age-limit law should be interpreted with [illegible] Another difficulty under the [illegible] in professors, once they have [illegible] pay little attention to their [illegible] obtained the highest position open to them and rest upon their laurels. There should be some stimulus to further work, and this would be provided by the State commission of examiners, to be selected from among the most distinguished teachers. The minority would propose that at 65 every professor should be a candidate for the State commission of examiners. If elected he would remain upon the commission up to 70, at which age he and all university professors would have to retire; but he should retire upon his full salary for the remainder of his life and not upon the pension rate of the other professors. [illegible] of a distinguis[illegible]

things.

The Red Cross Society.

The Croce Rossa Italiana is represented at present in the Balkans by a hospital unit from Bologna and an ambulance from Turin with the Montenegrins, a hospital from Padua with [illegible] and-[illegible] despa[illegible] plete hospital, Professor Burci, director of the Clinica Chirurgica of Florence, is in command, and took with him several of his assistants in the surgical clinic, while the medical direction is in the hands of Professor Baduel, of the Clinica Medica of Florence. This sending to Servia of the principal surgeon of Tuscany with his trained assistants has excited a good deal of comment. On the one hand, it is rumoured that it is a political move on the part of the Government, who has despatched a hospital unit superlatively equipped, both in *personnel* and material, to create a good impression at Belgrade at a moment when Austria has withdrawn her Red Cross units owing to the pressure of mobilisation at home. On the other hand, it is whispered that the Croce Rossa [illegible] retrieve its reputation, somewha[illegible] in Libya, where the lack of di[illegible] the value of the work of some of the Red Cross hospitals and ambulances. By sending a hospital under the command of a senior hospital surgeon, and with the subordinate officers selected from [illegible] the central committee of [illegible] hat it could with confidence face criticism in a foreign country.

Bassini Institute for the Cure of Hernia.

The[illegible] of the[illegible] numb[illegible] Bassin[illegible] The oc[illegible] with, [illegible] words [illegible] the in[illegible] dedica[illegible] with C[illegible] the in[illegible] funds [illegible] Bassini in July, 1909.

Jan. 20th.

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

Unification of the Peninsula Municipalities.

CLUSTERING round the base of Table Mountain are no fewer than nine different municipalities—namely, Cape Town, with a population of 68,742; Sea Point, with 9411; Woodstock, with 28,693; Maitland, with 5762; Mowbray, with 9272; Rondebosch, with 5626; Claremont, with 13,329; Wynberg, with 16,014; and Kalk Bay, with 3526. The municipalities of Cape Town, Sea Point, Wynberg, and Kalk Bay have a sufficient water-supply for their own needs and underground systems of drainage. The other municipalities are without proper water-supplies and are unsewered. The sanitary conditions of the latter are far from satisfactory, and just outside their boundaries slums have grown which are a menace to the health of the whole area. For years the question of unification appears to have been discussed, but the matter so far has never apparently been within the range of practical politics. Last year, however, a conference assembled, and after prolonged discussion evolved a scheme under which it is thought that the municipalities should be able to unite. This scheme is now to be put before the ratepayers of each municipality, when it is hoped that it will be ratified, so that an enabling [illegible] Provincial Council [illegible] e partnership. It [illegible] peninsula can be [illegible] thus establish its [illegible] ry capital of the [illegible] South Africa. To [illegible] atter of astonishment that the area should have remained so long under the control of a number of petty local authorities.

Reorganisation of Asylums.

It is rumoured in Pretoria that the Government has at [illegible] isa[illegible] sed [illegible] sed [illegible] and will become the criminal lunatic asylum The other asylums will be graded each for a different class of patient. Practically all available funds will be spent on the Bloemfontein Asylum, and the accommodation freed by the transfer of criminal lunatics thither will relieve the congestion at other asylums. The scheme sounds attractive, but as the Government is without any recognised medical adviser on questions of asylum policy, and as so far most of its medical administrative work has not been much of a success, it would perhaps be safer to suspend judgment until full details of the scheme have been made public.

Dec. 17th, 1912.

NEW ZEALAND.

(FROM OUR OWN CORRESPONDENT.)

Medical Inspection of Schools.

AT last, after much discussion and much urging, New Zealand has undertaken the medical inspection of the children attending the State schools. Four inspectors have been appointed, two male and two female, at a salary of £500 per year. Roughly speaking, there are some 132,000 children attending the schools, and as the schools are spread over an area slightly greater than that of England and Scotland it can easily be seen that some time must elapse before an effective result can be obtained; still, the data acquired will be of great value from both the educational and ethnological point of view. The influence of better climate and easier economic conditions upon child life can by-and-by be investigated. Judging from the very meagre data already acquired it would seem that, age for age, the New Zealand child is taller than the English school child, but that just as many suffer from bad teeth, adenoids, and imperfect vision as at home. The question of how the defective children are to be treated has occasioned much discussion, and it is satisfactory to learn that the present Government has decided not to interfere in any way with the work of the ordinary medical practitioner. The tendency in these democratic colonies is to thrust every burden upon the State, but the profession here has made its voice heard, and the Ministers responsible have openly invited the help and counsel of the medical profession in this work. This is as it should be.

Maternity Homes.

One of the last, and perhaps best, of the acts of the late Mr. Seddon was the establishment of maternity homes, where the wife of the working man could receive skilled attention in suitable hospitals at her confinement. The charges are moderate and the attendants are all properly trained. Considerable discussion, however, has lately taken place as to their administration, and some rather acrimonious criticism and rejoinders have been published. A magisterial inquiry is now being held into the working of the Auckland Home.

The Australasian Medical Conference.

The next meeting of the Australasian Medical Conference is to be held in Auckland early next year, and Dr. A. Challinor Purchas has been elected President.

The Immigration of Consumptives

The question of immigration has occupied the attention of the Government lately. There is need of a greater population in New Zealand, but it has been pointed out that many who have arrived lately have been far from suitable, from a health point of view, to take up the kind of work which is available. Several have landed suffering from consumption in such an advanced stage as to require hospital or sanatorium treatment within a short time of their arrival in the Dominion. It is impossible to impress too strongly on the profession at home the unwisdom of recommending indigent consumptives to "go to the colonies." Every endeavour is made by the authorities to stop such patients landing, and should they pass the cordon their lot is not a happy one. The Government now proposes to appoint a permanent medical officer in London to examine all immigrants before they embark. For two years they had such an officer in London and great good resulted from his work. It would be well for any medical man, before recommending a poor patient to come to New Zealand, to communicate with the High Commissioner, 13, Victoria-street. In this way much trouble would be saved.

Dec. 12th, 1912.

Obituary.

GEORGE ALEXANDER GIBSON, M.D., D.SC. EDIN., LL.D. ST. AND., F.R.C.P. EDIN. & IREL., &C.,

MEMBER OF THE GENERAL MEDICAL COUNCIL; CONSULTING PHYSICIAN TO THE DEACONESS HOSPITAL; PHYSICIAN AND LECTURER ON CLINICAL MEDICINE TO THE ROYAL INFIRMARY, EDINBURGH.

SCOTLAND has lost a brilliant member of the medical profession and one of its leading physicians by the death of Dr. George A. Gibson. The intimation of his death has come as a shock to many, for the serious nature of his illness was not widely known. That a man of 58 years, in the full tide of his usefulness and prosperity, should be prostrated by illness from which he rallies only to be again and again prostrated until the "silver cord" breaks will ever impress men with a sense of helplessness and of ignorance, for beneath it all lie the problems of life. We medical men know what it is to feel thus, and those of us who knew Gibson intimately feel it very specially. The generous, cordial greeting of a nature full of brightness and overflowing with a vitality which seemed to be communicable we know now only as a memory. Life is duller and greyer in Edinburgh by the loss of such a living, active, vigorous, and genial personality from amongst us. No man can take Gibson's place, for there is no one like him, no one who has the characteristics which distinguished him, which made him the centre of many interests in Edinburgh, and one to whom men turned for sympathy and help. It is the *man* we specially mourn, and in doing so we thank God for men of high and honourable ideals, whose characters have never been stained by the mean and contemptible things of life—men who stand for honour, for truth, for straight dealing. And Gibson was one of those men. Having said so much in an endeavour to express the first thought that arises in men's minds as they hear that Gibson is dead, we may pass to a consideration of his professional life, while recognising that it was necessarily determined and coloured by the innate character of the man.

Gibson began the study of medicine in Edinburgh in 1872 Having spent two years at Glasgow University before going to Edinburgh he took the degree of Bachelor of Science at the latter University in 1874, and obtained the Falconer Memorial Fellowship in Geology. His student career was marked by the place he took as a student of science. In medicine the influences which most affected his future were the interest he took in anatomy under the teaching of Professor, now Sir William, Turner, his clerkship with Professor Lister in the Surgical House, and a corresponding experience under Dr. George W. Balfour in the Medical House of the old Royal Infirmary. He graduated in medicine in 1876 and a year later took the degree of Doctor of Science with a thesis on a geological subject. Notwithstanding the attractiveness of science and the ease with which he mastered its details, medicine proved to be still more attractive to him, and he became resident physician in the Royal Infirmary to Dr. G. W. Balfour. At that time Balfour was at the height of his reputation as an authority on heart disease, and Gibson readily turned his interest and his faculties to that line of work. He even then contributed papers to THE LANCET and the *Edinburgh Medical Journal* on the views that Balfour was contending for. His interest in scientific medicine was thus early aroused into activity. Even those early papers showed also the possession of a literary gift, and this gift continued to mark everything that came from his pen as years passed. After his period with Dr. Balfour was completed he demonstrated anatomy for some time under Professor Turner in the University, and when there formed with the late Dr. D. J. Cunningham, the senior demonstrator, one of his strongest and most valued friendships.

In 1878 he became a candidate for the post of assistant physician to the General Hospital in Birmingham, and was successful in his application. While there he was closely associated with two Edinburgh graduates whom he had known as a student—namely, Dr. Saundby and Sir Thomas Chavasse. He did not, however, remain long in Birmingham, for by the end of 1879 he was back in Edinburgh with his name on a door-plate, ready to take

GEORGE ALEX. GIBSON, M.D., D.Sc. EDIN., LL.D. ST. AND., F.R.C.P. EDIN. & IREL., F.R.S.E.,
PHYSICIAN AND LECTURER ON CLINICAL MEDICINE TO THE ROYAL INFIRMARY, EDINBURGH.

whatever of medical practice should offer. He became a Fellow of the Royal College of Physicians of Edinburgh in 1880, and proceeded to the M.D. degree in 1881. He was also elected a Fellow of the Royal Society of Edinburgh. He joined the New Town Dispensary as a member of the staff; he was appointed tutor in clinical medicine in the Royal Infirmary; he lectured on materia medica for a few years, then on practice of medicine in the Extra-mural School of Medicine. Such was the training [illegible] ough who aspired to the "higher [illegible] They had, it is almost needless [illegible] sure to extend their professional knowledge; and to acquire the art of lecturing, and of teaching students. During those years of waiting and of development Gibson wrote a number of papers on cases which came under his observation or on subjects in which he was interested. His first larger effort in Medicine was [illegible] lliam Russell, in the preparation [illegible] Guide to Methods of Clinical [illegible] had succeeded Dr. Gibson as [illegible] ry, and they jointly recognised that the student needed a book of the kind they produced.

[illegible] appointed to the honorary staff of the Royal Infirmary as an assistant physician. In the Infirmary he was attached to Professor Sir T. Grainger Stewart, who most generously gave his assistant physician permission to make full use of the clinical material the wards supplied. He was also given a part in the clinical instruction of the students. This was just the kind of opportunity Gibson required, and he availed himself of it to the uttermost. Two years later he published a brochure on "Cheyne-Stokes Respiration." In 1898 his work on the "Diseases of the Heart and Aorta" appeared; it ran to over 900 pages, and one of its striking features was the wonderful bibliography which accompanied it. This work necessarily gave Gibson the position of an authority on heart disease, for it was evident that he at least knew all that was to be known at the time in this important and extensive department of medicine. In 1901 he edited a two-volume "Text-book of Medicine," t [illegible] c [illegible] l [illegible] 1 [illegible] I [illegible] l [illegible] c [illegible] r [illegible] which appeared in one or other of the weekly or monthly journals, in the *Ed*[illegible] and in *International Clinics.* [illegible] to over 100 in num [illegible] the "Life of Sir William Tennant Gairdner" and the delivery of the Address in Medicine before the British Medical Association at its annual meeting in Liverpool last summer.

When Sir T. Grainger Stewart died Gibson was a candidate for the chair of Practice of Medicine in the University, [illegible] his reputation and popu- [illegible] and extended from [illegible] putation as a "heart [illegible] proportions, his book [illegible] es necessarily marking him out as an able and erudite exponent of the diseases of the organ dealt with in the book and lectures. When he became known his personal attractiveness, his fine, open [illegible] professional brethren who sought his assistance. It is in the full noon-tide of this professional usefulness that he has been cut down. That he enjoyed his success need not be questioned; that he almost gloried in expending physical and mental force even in his consulting work was equally evident, and it cannot be doubted that that generous expenditure of energy for other people, while it attracted them by its very [illegible] dial [illegible] us. [illegible] sful and popular, and in this department, as in all others, there was an expenditure of nervous force that was attractive even if it were not always necessary. This forcefulness drew many men round him if it repelled some; the former class, and it was the larger, found him a kind, sympathetic, and helpful friend. His residents and clinical clerks were devoted to him in more than ordinary degree.

In general medical affairs Gibson took a prominent place in Edinburgh. In his earlier years he was secretary of the Royal College of Physicians, and was for many years a member of the Council of that corporation. He was chairman of [illegible] both fc [illegible] membe [illegible] had quite recently been appointed to represent his College on the General Medical Council. As a physician to the Royal Infirmary he took an active interest in all the varied questions which arose from time to time with regard to the relations of that institution to the medical school, and of the medical school and its teaching to it. His friendly and genial presence will be long missed at those business conferences. He was a great influence in virtue of his open sincerity, straightforwardness, and contempt for what was not straight. He had a withering contempt for meanness and the lower and baser forms of self-seeking and for whoever displayed them. He stood for all that was honourable and of good repute in the profession and in life. He was an optimist by disposition.

To a man like Gibson honours were bound to flow, and he was the recipient of an exceptional number. His reputation as a writer and a consultant entitled him to much, but his power of making friendships and of keeping them and his charming personality contributed some part in bringing them to him. And the list is a long one: he was an M.D. of Dublin, a D.Sc. of Harvard, a D.Sc. of Liverpool, an F.R.C.P. of Ireland, an LL.D. of McGill, and an LL.D. of St. Andrews. In the organisation of the Territorial Forces he held a commission as Lieutenant-Colonel to the 2nd Scottish General Hospital.

Apart from his personal qualities the outstanding professional side of Gibson's character was his intense devotion to the science and practice of his profession and the enthusiasm with which he followed all its advances. He was the exponent of whatever appeared to him to be sound in the latest advances in medical knowledge. He was actively sympathetic towards all forward movement in medicine, and his generous attitude towards other workers explained the personal affection men scattered all over the world felt for him. Few men were so widely known. The exact value of his own contributions to medicine it is too soon to attempt to estimate, meanwhile we state the special influence he [illegible] of students. [illegible] greater is it [illegible] Had it not been for the breakdown in health Gibson would have occupied the Presidential chair of his College this winter, and it is one of the coincidences of life that he should die on the night of the college dinner.

OWEN THOMAS WILLIAMS, M.D. LOND., M.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO THE LIVERPOOL ROYAL INFIRMARY.

WE much regret to record the death of Dr. Owen T. Williams, which occurred on Jan. 15th after a short but acute illness. Dr. Williams, who was only in his thirty-second year, was a brilliant member of the younger group of the medical profession in Liverpool. His career as a student at University College, Liverpool, was one of great distinction, and showed an unbroken record of successes. He obtained, in addition to the diplomas of the Conjoint Board, M.B. Lond. (with honours) (1903), M.D. Lond. (1904), and M.R.C.P. Lond. (1907). He was also a Bachelor of Science of London University. Prior to settling down to work in Liverpool he studied medicine in London, Berlin, Frankfort, and Baltimore. Upon his return to Liverpool he was appointed medical registrar and tutor at the Liverpool Royal Infirmary and honorary assistant physician at the Liverpool Consumption Hospital, which office he resigned in 1910 upon his appointment as assistant physician to the Liverpool Royal Infirmary. He was also lecturer in pharmacology at the University of Liverpool. He was an ardent student at the Johnston

Laboratory of the University, devoting much attention to the bio-chemistry of the processes of disease, especially in relation to problems of digestion and nutrition. He was joint editor with Professor Benjamin Moore of "Researches in Bio-chemistry." Although his career, so full of promise, was cut off at such an early age, he had already achieved a success remarkable in one so young. His contributions to medical literature were very numerous. He was an able teacher, held in high appreciation by the students at the University and at the Royal Infirmary, while his sympathetic character endeared him to all with whom he came in contact. His funeral, which took place on Jan. 18th, was attended by all his colleagues at the Infirmary, and by representatives from all the other hospitals in the city. There was also a large concourse of medical students and nurses from the various hospitals—an evidence of the high esteem in which he was held. He was unmarried.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Jean Morax, founder of the Association Médicale of French Switzerland and an active worker in the cause of hygiene, aged 74.—Dr. Franz Schultz, of Berlin, *privat-docent* of dermatology and radiography as applied to therapeutics.

THE NATIONAL INSURANCE ACT.

THE SPECIAL REPRESENTATIVE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

A FURTHER special meeting of the Representative Body of the British Medical Association was held in the Connaught Rooms, London, on Friday and Saturday, Jan. 17th and 18th. The meeting was called to consider the desirability of releasing members of the medical profession from their pledge and undertakings in connexion with the National Insurance Act, and also to consider the situation created by the attitude of the Government toward the previous decisions of the Representative Body. As before, the proceedings were private, but official communications were sent out each day to the lay press. The following report is from a member of our staff, who was again permitted to be present.

The meeting began at 9.30 A.M. on Jan. 17th, under the chairmanship of Mr. T. JENNER VERRALL. The Representative Body did not go into committee but remained in full session throughout. After the disposal of formal business some time was spent in discussing the order in which the items on the agenda should be taken. It was then decided to express the opinion that where Representatives had received definite instructions from their Divisions, their speeches as well as their votes should be in support of those instructions. The first of the two main issues before the meeting was then raised by a motion proposed by Dr. C. BUTTAR:—

> That while expressing the [illegible] d declining in
> any way to blame, those mer [illegible], compelled by
> economic pressure and the d [illegible] e against their
> wills gone on to the panels, [illegible] expresses the
> opinion that, until agreements to treat insured persons under the Act
> are satisfactory to [illegible] dance with the
> declared policy of [illegible] pledge must be
> considered as still [illegible] to them.

He claimed that their support and consideration were chiefly due to those men who, though faced with ruin, had remained loyal to their pledges. The motion was supported by other London representatives, who felt that the withdrawal of the pledge would counteract much of the success that had been gained in the metropolis through the vigorous campaign of the London Medical Committee. The opposition was led by Mr. J. E. O'SULLIVAN, who declared that the pledge was given in order to produce unity, and that as it had not done so they must quit a fool's paradise; it would not be fair to the loyal men to hold them now to their pledges. Dr. S. HODGSON also argued that since the pledge had failed as a weapon it should be abolished; in his opinion the Salford scheme, which had not involved breaking the pledge, could be made national. The motion was also opposed very emphatically by Mr. C. G. MEADE, and by Mr. J. L. STRETTON in a speech of considerable force. Their main line of argument was that men had been driven upon the panels wholesale, up and down the country; that this fact must be faced; and that the loyal minority must no longer be sacrificed. Other speakers brought forward the inadequacy of the defence funds and the changed attitude of the Association towards coöperation with lay bodies as reasons for granting absolution from the pledge.

Dr. G. E. HASLIP, who had given notice of a motion to proceed to the next business, pointed out the danger that lay upon each side of a straight vote upon Dr. Buttar's motion. He urged the meeting not to express a positive opinion upon the validity of the pledge and undertaking. The solicitor to the Association then gave it as his opinion that by its wording the pledge referred to the policy of the Association, whatever that might be, provided it was constitutionally adopted. This ruling was controverted by Dr. J. H. KEAY, who made it clear, however, that he spoke for himself and not on behalf of his Division. Dr. R. M. BEATON, in support of the original motion, declared that if London's example were followed the profession would win. He asked the meeting to give to a selected body of men plenary powers to meet changing conditions. Mr. E. B. TURNER, who was very cordially received, also strongly supported the motion. He said the fight in London was a test fight, and that if permission could be obtained for the insured of London to make their own arrangements, this would be obtained all over the country. Dr. T. A. HELME expressed deep sympathy both with those whose loyalty had kept them to the pledge in the face of ruin, and those who by treachery and force had been compelled to give unwilling service under the Act. But the latter were the majority, and the pledge as a fighting weapon had failed. The meeting would deliberately inflict ruin on the men with the strongest sense of honour if it held them to their word. The pledge must be absolved, and they must elect plenipotentiaries.

Dr. Buttar's motion was then shelved by a resolution to pass to the next business, and a motion standing in the name of the Canterbury and Faversham Division was taken:—

> That this Representative Meeting, recognising the force of present circumstances and consulting the best interests of the Association and the unity of the profession, now releases all practitioners from their pledge and undertakings.

The mover, Dr. T. B. HEGGS, said that it was designed in order to keep within the fold the good men who had been intimidated into joining the panels. There should, he said, be no discrimination and no recrimination; all practitioners should be released. Thereupon various Representatives gave the history of their local struggles, and showed reason for a general formal release from the pledge. Dr. F. J. SMITH, however, pleaded for a *via media*, which would neither alienate the loyal nor give a triumph to the disloyal. He believed that such a course was offered by an amendment by Dr. Haslip.

After considerable discussion and some modification Dr. HASLIP'S amendment came before the meeting thus:—

> That the Representative Body recognising the economic and other forms of pressure under which many members of the Association consider themselves warranted in taking a certain action with regard to the pledge and undertaking which they signed, and having regard to the strenuous fight which the profession in many areas has carried on, does not consider the present an opportune time to express an opinion upon the action of those members.
>
> That this meeting accordingly proceeds to appoint a committee which may release from the pledge and undertaking the practitioners in any Divisions or Insurance Areas, which give to the Committee satisfactory evidence that this action is desired in such Divisions or Insurance Areas, such release only to be effective so far as regards service by practitioners in their own districts, parishes, and towns, and any acceptance of service by a practitioner in an area where release has not been given will be regarded as conduct detrimental to the honour and interests of the medical profession.

This compromise amendment was seconded by Dr. W. E. THOMAS and supported by Mr. D. F. TODD, who maintained that it backed up those Divisions which were still fighting, while making it possible to absolve from their pledges those Divisions which had had to give in. On being put to the meeting at the close of Friday's proceedings a roll-call vote was demanded and taken. The amendment was lost by 80 votes to 91. The main issue was thus still unsettled at the end of the first day's debate.

At the resumption on Saturday morning the CHAIRMAN addressed the meeting upon the various courses open to it. It was decided that a straight vote should be taken then and there upon Dr. Heggs's motion to release all practitioners from their pledges. A roll-call vote was demanded and taken The result was For the motion 115, against, 35, 5 members did not vote Whereupon the Chairman declared the motion carried by the requisite two thirds majority Immediately afterwards the following resolution standing in the name of the Exeter Division was passed unanimously without discussion —

> Any acceptance of service outside the practitioner s own district parish, or town involving a change of residence for the express purpose *of accepting service will be regarded as conduct detrimental to the* honour and interests of the medical profession

Dr HELME then addressed the meeting Before rescinding the declaration against serving under the Act which was given by the Representative Body at Liverpool, he asked them to register a strong protest against the methods by which panels had been formed He therefore submitted the following motion —

> That this meeting records its emp
> able methods adopted by the Go
> urgency was created under which
> selves threatened with financial rui
> service under the National Insuranc
> considers to be derogatory to the
> interest

This indictment was seconded by Mr TURNER who insisted that throughout its struggle for freedom the attitude of the medical profession had never been political whereas, directly the Government saw that the medical opposition was serious all the resources of the party machine were used to break it up After debate this motion was put to the vote and carried with one dissentient The Liverpool decision was then formally rescinded

Consideration was next given to the future policy of the Association, and the following resolution, giving very full powers to the Council, was passed —

> That the Council be instructed: (*a*) to take all necessary steps to watch and protect the interests of the profession under the National Insurance Act (*b*) to take any opportunity that may be afforded for placing the Representatives of the Association on the Advisory and Insurance Committees (*c*) to obtain statutory recognition of Local Medical Committees in every insurance area (*d*) to collect information as to defects in the Act and Regulations and to take all possible opportunities of remedying them

It was further agreed, amidst applause that in every area where the local profession is strongly organised in opposition to the Act it should be encouraged to remain strong and should be supported to the fullest The questions of central and local organisation, of finance of the position of hospital staffs and of support in the lay press were raised by Dr E R FOTHERGILL and others and after a short discussion these and kindred matters were referred to the Council, including the question of facilities for insured persons to contract out of the Act Another important question which the Council was requested to consider was whether some way could be devised of obtaining more quickly than at present the decision of the Association in cases of urgency, and how far the regulations and by laws of the Association would have to be altered in order to do so It was felt that the present constitution of the Association had become unwieldy in action The Council was also asked to consider the possibility of a postal vote of the whole profession upon questions of policy suggested by the Representative Body

Before the meeting closed on Saturday afternoon Dr J A MACDONALD (chairman of Council) drew attention to the importance of making the records in day books as full as possible since these would be the only evidence of work done under the Act and therefore the only basis for a future demand for better terms The vote of thanks to Mr Verrall for his excellent chairmanship was again carried with acclamation The proceedings terminated with a vote of thanks to the London Medical Committee

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LECTURES ON ILLUMINATING ENGINEERING —A series of Friday evening lectures on Illuminating Engineering is now in progress at the Polytechnic, Regent street London, W On Jan 17th the first lecture of the second half of the course dealing with illumination and the eye was delivered by Dr W J M Ettles The remaining five lectures, by Mr J S Dow, commencing to day (Jan 24th) will deal with practical applications including such questions as the measurement of light and illumination, colour, shades and reflectors and indoor and outdoor illumination These lectures should prove of interest to medical men at least as much as to the public

Medical News.

UNIVERSITY OF LONDON —The following is an addendum to the pass list for the Third (M B B S) Examination for Medical Degrees held in October, 1912 —

Vincent Glendining Guy s Hospital

FOREIGN UNIVERSITY INTELLIGENCE —*Breslau* Dr Ponfick medical Privy Councillor and professor of pathological anatomy will resign his chair at the close of the current winter session He is 69 years of age —*Cagliari* Dr Pasquale Sfameni extraordinary professor of midwifery and gynæcology has been promoted to the Ordinary Professorship —*Copenhagen* Dr S A Gammeltoft has been recognised as *privat docent* of Midwifery and Gynæcology —*Düsseldorf* (*Academy of Practical Medicine*) Dr Ernst Graf, *docent*, Dr Peter Janssen chief of the surgical clinic Dr S Engel chief of the children s clinic Dr Reinhard von Velden *docent* of Medicine and Pharmacology, have been granted the title of Professor —*Erlangen* Dr W Brock has been recognised as *privat docent* of Otology —*Giessen* Dr Th Mollison has been recognised as *privat docent* of Psychiatry —*Halle* The friction between the students and the Faculty has terminated an arrangement being made that in future no foreigner will be allowed to "practise in the medical clinic unless he has passed the "Physicum examination in a German university or an equivalent elsewhere —*Heidelberg* Dr Kurt Elze has been recognised as *privat docent* of Anatomy —*Michigan* (*Ann Arbor University*) Dr Udo Wile has been appointed to the chair of Dermatology and Syphiligraphy, in succession to Dr Breakey resigned —*Modena* Dr Giuseppe Ferrero has been recognised as *privat-docent* of Surgery and Operative Medicine —*New York* (*Polyclinic Medical School and Hospital*) Dr Anthony Bassler has been appointed to the chair of Medicine —*Padua* Dr Amatore Austoni has been recognised as *privat docent* of Operative Medicine —*Palermo* Dr Emilio Engel has been recognised as *privat docent* of Dermatology and Syphiligraphy —*Prague* (*Bohemian University*) Dr Viktor Guttmann has been recognised as *privat docent* of Otology and Laryngology —*Strasburg* Professor Stilling has been appointed Medical Privy Councillor —*Toulouse* Dr Garrigou Lecturer on Hydrology has been promoted to Adjunct Professor —*Würzburg* Fräulein Valentin Gros has been appointed Prosector in the University Anatomical Institute

CENTRAL MIDWIVES BOARD —A meeting of the Central Midwives Board was held at Caxton House Westminster, on Jan 16th, Sir Francis H Champneys being in the chair A letter was considered from the matron of the Maternity Nursing Association Myddelton square, E C, stating that the executive committee of the association is prepared to accommodate not more than eight outside pupils at the lectures held for candidates entering for the examination of the Central Midwives Board on certain conditions A letter was also considered from the secretary of the Royal *Maternity Charity of London suggesting that the Board* might utilise the existing training school of the charity in connexion with the proposal that all lectures for pupils in London entering for the examination of the Central Midwives Board should be held at one of the training institutions The Board directed that the secretary of the Royal Maternity Charity be thanked for his letter and that it be considered when the list of lecturers is revised A letter was considered from Dr W J Howarth, county medical officer of Kent asking the Board s opinion as to whether pulmonary tuberculosis should not now be regarded as an infectious disease and consequently within the prohibition contained in Rule E 17 (b) as to laying out the dead The Board directed that Dr Howarth be informed that the answer to the question will be found in Rule E 17 (b) which runs as follows —

> No midwife shall (except under the circumstances hereinafter
> no case
> has n t
> a post
> nsgress
> man a
> ays out
> is not
> rising

All I can say is that, as a result of the working of the National Insurance Act, the practices of many doctors will probably be doubled in value.

Sir J. D. Rees: Does the right honourable gentleman think that the medical profession are no judges of their own business?—Mr. Masterman: The members of the medical profession are coming in to work the Act in large numbers.

The Insurance Act in Argyllshire.

Major Hope asked the Secretary to the Tre[illegible] tion had been called to the meeting of the Arg[illegible] mittee on Jan. 10th, when it was resolved that [illegible] county were such that the panel system, worked at its best, would not give a complete and satisfactory medical service, and that it should be represented to the Insurance Commissioners that a large Treasury grant was necessary for Argyllshire in order that insured persons might receive proper medical treatment; and whether the probable necessity of such grants being made was included in the £1,650,000 estimated by the Chancellor of the Exchequer on Oct. 23rd, 1912, as the additional cost of medical benefit under the National Insurance Act.—Mr. Masterman said in reply: Argyllshire is one of the districts within the terms of reference of the Highlands and Islands Committee, whose report is now under consideration.

Major Hope: After the report has been dealt with and acted upon, will the insured person be provided with medical benefit or the contribution returned?—Mr. Masterman: I think there is medical benefit for all the insured persons in Argyllshire.

Sir G. Younger: Will the right honourable gentleman say how it is possible in these scattered areas, with matters as they are now, to do [illegible] men?—Mr. Masterman: All the medical [illegible] vice under the National Insurance [illegible] a special mileage grant in those scattered areas.

The Marquis of Tullibardine: With regard to the question of mileage, has that been promised to the country doctors?—Mr. Masterman: Yes, all the doctors have been promised that in sparsely populated areas there will be a special grant.

Assistants under the Insurance Act.

Mr. Worthington Evans asked the Secretary to the Treasury whether, where a panel had been constituted, it was necessary for panel doctors' assistants to be also on the panel before they were permitted to treat insured persons; and whether the locum tenens of a panel doctor must be on the panel before he could look after the panel doctors' patients.—Mr. Masterman answered: Where a panel is constituted it is open to a qualified assistant or locum tenens, if his principal assents, to place his name on the panel. An assistant or locum tenens whose name is not thus on the panel may only treat insured persons on behalf of his principal when the latter is precluded by urgency or other professional duties, absence from home, or other reasonable cause from giving personal attendance to an insured person under his care.

Mr. Worthington Evans: Would the ordinary two or three weeks' holiday be considered a reasonable cause?—Mr. Masterman: Yes, it would include a case of that sort.

In reply to Mr. John Ward, Mr. Masterman stated that it was the duty of the Insurance Committee to take any necessary steps to secure that the service provided by any assistants was satisfactory, but, subject to this, the salary of such assistants was a matter for their principals and themselves to determine.

Nursing Arrangements under the Insurance Act.

Sir Archibald Williamson asked the Secretary to the Treasury whether any arrangements had yet been made to provide nursing for insured persons; whether such arrangements, if any, had been made with existing district nursing associations; whether these associations were willing to undertake the work; and how much it was proposed to pay per insured person for the nursing required.—Mr. Masterman [illegible] urses is a matter for the Insurance [illegible] yet [illegible] loy- [illegible] sion of the kind has been made in some cases in connexion with sanatorium benefit.

Sanatorium Treatment in Ireland.

Mr. Hugh Barrie asked the Secretary to the Treasury whether he would now state the amount of the intended grant in aid to be given to Irish county councils to assist in providing sanatoria treatment for uninsured persons, and to meet the cost of providing sanatoria treatment for insured persons, in so far as insurance contributions would be insufficient for the purpose.—Mr. Masterman furnished the following written answer: The intention is that the amount of the annual grant should be one half of the total net cost incurred, within reasonable limits, by or on behalf of a county or county borough council, or combinations of these bodies, according to a scheme approved by the Irish Local Government Board, in treatment of tuberculosis in the area, of all persons, whether insured persons, dependents of insured persons, or persons who are neither insured persons nor the dependents of insured persons, after deducting the amounts received from Insurance Committees out of the moneys available under the National Insurance Act for sanatorium benefits and any sums received in respect of the treatment of non-insured persons or otherwise. A circular explaining the conditions of the grant in detail is now in draft and will shortly be issued by the Irish Local Government Board.

Inclusive Fees at English Universities.

In reply to Mr. Whyte, Mr. J. A. Pease (President of the Board of Education) said: The Universities in England and Wales in receipt of Exchequer grants charge inclusive fees in the great majority of cases, universally so in the Faculty of Medicine.

Monday, Jan. 20th.

Friendly Societies and Canvassing.

Dr. Esmonde asked the Secretary to the Treasury whether he was aware that some benefit societies had issued circulars to their members urging them to select particular doctors on the panel, and had also sent canvassers to their members to inform them that they were required by the society to select certain doctors who were named; whether in the majority of cases this was being done with reference to members of those societies who only became members of any Friendly Society for the first time under the provisions of the National Insurance Act, and who were not patients of the particular doctors named; and whether, in view of the effect of pressure such as this or canvassing carried on [illegible] oured by the officials of [illegible] one on the local panels, [illegible], the Insurance Com[illegible] prohibit societies from [illegible] swered: Every insured [illegible] the panel by whom he wishes to be attended, and the issue of any circular which conceals this fact would be unjustifiable. If my honourable friend will inform me of any actual case in which a circular has been issued stating that members are required by the society to select certain doctors who are named, I will see whether any action should be taken.

London County Medical Committee.

Mr. Touche asked the Secretary to the Treasury whether his attention had been called to a resolution passed by the London Medical Committee protesting against the recent formation of what was termed the London County Medical Committee (from among the members of which an executive committee had been f[illegible] in no sense consistent with reason, or in p[illegible] National Insurance Act, could the Insuranc[illegible] that such a committee could be regarded [illegible] duly qualified medical practitioners resident in the county of London; and could he say what steps were proposed to be taken by the Commissioners to secure that any body which was recognised under the Act satisfied the provisions of the Act.—Mr. Masterman replied: The committee referred to in the question has not yet been recognised by the Commissioners under Section 62 of the Act. The Commissioners, when considering applications made to them by a medical committee for recognition under that section, require full information as to its composition and the procedure by which it was brought into existence.

The London Panel.

Mr. Touche asked the Secretary to the Treasury how many of the doctors on the panel for the county of London were also on the panels of neighbouring counties.—Mr. Masterman said in reply: I believe that some doctors resident near the border of the administrative county of London have arranged to continue to treat insured persons on the other side of that border under the Insurance Act as formerly in private practice. A complete answer to this question would involve the separate examination and comparison of the panels of Middlesex, Surrey, Kent, Essex, West Ham, and Croydon. I will send the honourable Member, if he desires, the printed lists of doctors for all these areas.

Major White also asked whether any doctors were entered on more than one panel in the county of London, and, if so, how many; and how many of these had been registered in more than two districts.—Mr. Masterman answered: There is only one panel for the county of London. Its division into lists for the separate boroughs is for the assistance of the insured persons in their selection of a doctor within convenient distance of their homes. Medical men were asked in what districts they wished to serve, and the lists were prepared accordingly. The number of doctors on the London panel in the first list was 760, and I learn that more than a hundred new names have since been received.

Contiguous Panels.

Major White asked the Secretary to the Treasury whether any medical men were entered on more than one panel under the National Insurance Act; if so, how many; and how many of these had been registered in more than two districts.—Mr. Masterman replied: Yes. Where a medical man living near the boundary between two contiguous areas has patients in both he has, of course, placed his name on the panel of both. It would obviously have been detrimental to the interests, not only of the medical men but of insured persons, that any such artificial divisions as arise from local government boundaries should preclude insured persons from continuing to receive the services of their own doctors. The figure of 15,000 given as the number of doctors on panels in Great Britain was arrived at after making a liberal discount for cases of this kind.

The Panel Lists.

Mr. Hogge asked the Secretary to the Treasury to state what steps had been taken to acquaint insured persons with the names and addresses of doctors on the panel; and whether lists of their names and addresses had been circulated to each insured person, or, failing that, whether their names and addresses had been advertised in the local press.—Mr. Masterman said in reply: Lists of medical men on the panel have been set up in all post offices, and in offices of the Customs and Excise Officers, at Police Stations, Labour Exchanges, and hospitals, and have also been sent to the local branches of Approved Societies who asked for them. Lists have not been supplied to individual insured persons, but certain newspapers have, I believe, published local lists.

Mr. Newman asked whether, before admitting the name of any practitioner who might apply to have his name placed on a panel in their area, the Insurance Committees had been directed by the Insurance Commissioners to investigate the validity and worth of any foreign or [illegible] ch applicant might adduce as proof of ability to [illegible] of him.—Mr. Masterman answered: I am not [illegible] practitioners have been included on any panel except duly qualified medical practitioners—that is, practitioners for the time being registered under the Medical Acts. No foreign or colonial practitioner is entitled to be registered unless he possesses the qualifications prescribed by the Medical Act, 1886.

Mr. Newman asked the right honourable gentleman whether his attention had been drawn to the difficulty caused to insured persons who were obliged to select a medical practitioner from their local panel owing to his status and degree being stated by means of letters of the alphabet only: whether on the Kensington panel two practitioners were described as L.K.Q.C.P.I. and L.R.F.P.S.G. respectively; and whether, in a revised or any subsequent copy of the panel that might be issued, the Insurance Commissioners would give directions that any qualifications in possession of the practitioner should be set out in more popular language.—Mr. Masterman said in reply: The question of the manner in which lists of doctors on the different panels are published is entirely a matter for the Insurance Committees [illegible] junction with the medical men on the panel. I [illegible] local variations in the proce[illegible] have cause[illegible]

[illegible]lection of Panels.

Mr. [illegible]ARMAN asked the Chancellor of the Exche[illegible] [illegible]ntative Men of the decision arrived at on Saturday last [illegible] to allow Meeting of the British Medical Association, whether it further time for the completion of the doctor[illegible] it was intended to set up the Local Medical[illegible]—Mr. LLOYD GEORGE said in reply: So far as I am aw[illegible]ls are still open in the greater part of the kingdom, and [illegible]en may still send in their names. The date of publicat[illegible] names rests with the Local Insurance Committees. Ap[illegible] for recognition by the Local Medical Committee may b[illegible] any time to the Insurance Commissioners for approval.

TUESDAY, JAN. 21ST.

[illegible]ndon Panel.

Reply[illegible]. The number of doctors[illegible]

[illegible]

[illegible] on the [illegible] resign[illegible]—Mr. MASTERMAN wrote in re[illegible] London Insurance Committee that [illegible] whose name appears on the list for the [illegible] drawn.

[illegible] boundaries of the borough.

Mr. TOUCHE also asked how many of the doctors whose names appeared on the London panel had resigned.—Mr. MASTERMAN (in a written answer) replied: Four doctors on the London panel have withdrawn, one of them because he is leaving London.

Medical Services and Snowstorms.

The Marquis of TULLIBARDINE asked the Secretary to the Treasury if an insured person wired for a doctor and was unable to get medical assistance owing to the roads being blocked with snow, the amount of premium due for medical benefit for that period would be refunded.—Mr. MASTERMAN replied: The answer is in the negative.

Accidents to Medical Men on the Panels.

[illegible] patient.

Medical Service in the Highlands and Islands.

Mr. CATHCART WASON asked the Secretary to the Treasury whether, [illegible] with [illegible] excep[illegible] in the [illegible]RMAN [illegible] great [illegible] The [illegible] I think [illegible]

WEDNESDAY, JAN. 22ND.

Conditions of Panel Service.

In reply to Mr. RUPERT GWYNNE, Mr. MASTERMAN said: No medical man ought to accept more insured persons on his list under the National Insurance Act than he considers he can properly be responsible for, and any insured person who has reason to believe that [illegible]ation from a doctor under the Act can [illegible] Service Sub committee set up by the [illegible]

BOOKS, ETC., RECEIVED.

A. MARCUS AND E. WEBER'S VERLAG, Bonn.

Arzt und R.V.O. Der Arzt und die deutsche Reichsversicherungsordnung. Von Dr. Th. Rumpf, Geh Med.-Rat und Professor an der Universität Bonn. Price, paper, M.3.; bound, M.4.

APPLETON, D., AND COMPANY, New York and London.

[illegible] the Johns Hopkins Hos[illegible] [illegible] A[illegible] The [illegible] A[illegible] Price not stated.

BAILLIÈRE, TINDALL, AND COX, London.

Physical Diagnosis By Richard C. Cabot, M.D., Assistant Professor of Medicine in Harvard University. Fifth edition. Revised and enlarged. Price 15s. net.

[illegible]

CHURCHILL, J. AND A., London.

Law for Medical Men. A Book for Practitioners containing *Extracts from Acts of Parliament interesting to Medical Men.* By Fred. J. Smith, M.D., F.R.C.P., Physician to the London Hospital. Price 10*s.* 6*d.* net.

CONSTABLE AND CO., LIMITED, London. HOUGHTON MIFFLIN COMPANY, Boston and New York.

The Milk Question. By M. J. Rosenau, Professor of Preventive Medicine and Hygiene, Harvard Medical School. Price 7*s.* 6*d.* net.

DEUTICKE, FRANZ, Leipzig und Wien.

Einführung in die Biochemie für Naturhistoriker und Mediziner. Von Dr. Viktor Grafe, Privatdozent an der Wiener Universität. Price not stated.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

The Treatment of Disease in Children. By G. A. Sutherland, M.D., F.R.C.P., Physician to *Paddington Green Children's Hospital*, and to the Hampstead and North-West London Hospital. Price 10*s.* 6*d.* net.

G. BRAUNSCHE HOFBUCHDRUCKEREI UND VERLAG, *Karlsruhe i.B.*

Volkswirtschaftliche Abhandlungen der badischen Hochschulen. Neue Folge. Heft 14. Der Gewerkschaftskampf der deutschen Aerzte. Von Dr. Theodor Plaut. *Price* M.3.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, London

A[illegible] in the [illegible]e Prin[illegible]ised by [illegible] Price 5*s.* net.

HODDER AND STOUGHTON AND HENRY FROWDE, London. For THE UNIVERSITY OF LONDON PRESS.

London Medical Publications. Minor Surgery. By Leonard A. Bidwell, F.R.C.S. Second edition. Revised and enlarged. Price 10*s.* 6*d.* net.

The Diseases of the Skin. By Willmott Evans, M.D., B.S., B.Sc., F.R.C.S., Senior Surgeon to the Royal Free Hospital. Price 10*s.* 6*d.* net.

HODGE, WILLIAM, AND COMPANY, 12, Bank street, Edinburgh; and London.

Trial of *Mrs.* Maybrick. Edited by H. B. Irving, M.A. Oxon. Price 5*s.* net.

MACMILLAN AND CO., LIMITED, London.

Human Physiology. By Professor *Luigi Luciani*, Director of the Physiological Institute of the *Royal University of Rome*. Translated by Frances A. Welby. Edited by Dr. M. Camis, Institute of Physiology, *University of Pisa. With a Preface by J. N. Langley*, F.R.S., *Professor of Physiology* in the University of Cambridge. In Four Volumes. Vol. II.. Internal Secretion; *Digestion; Excretion*; the Skin. Price 18*s.* net.

MEDICAL REVIEW OF *REVIEWS, 206, Broadway, New York.*

Pathfinders in Medicine. By Victor Robinson. With a Letter from Ernst Haeckel and an *Introduction by* Abraham Jacobi. *Price $2.50, post paid.*

NISBET, JAMES, AND CO., LIMITED, 22, Berners-street, London, W.

Nisbet's Medical Directory, 1913. Price 8*s.* 6*d.* net.

P[illegible] W.C.

[illegible] Human [illegible]t. Sixth [illegible]). Price 5*s.* net.

PHARMACEUTICAL JOURNAL OFFICE, 72, Great Russell-street, London, W.C.

The Pharmacist's Diary and *Year-book for* 1913. Including Additions to The Pharmaceutical Journal Formulary, together with other Information. *Edited by John Humphrey. Price* 5*s.* net.

RICHARDS, GRANT, LIMITED, London. LIPPINCOTT, J. B., Company, Philadelphia.

Monaco and Monte Carlo. By Adolphe Smith. With Eight Reproductions in Colour from Drawings by Charles Maresco Pearce, and with *Forty-eight Illustrations* in Black and White. Price 15*s.* net.

SPRINGER, JULIUS, Berlin.

Jahrbuch für orthopädische Chirurgie. Bearbeitet von *Dr. Paul* Glaessner. *Dritter Band; 1911. Price, paper, M.6;* bound, M. 6.80.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, *London.*

University College Hospital Medical School. *(University of* London.) Research Department Director: Dr. Charles Bolton. Collected Papers. Vol. II. *Price not stated.*

Appointments.

Successful appli … of Public Institutions, and others … for this column, are invited to forward to … directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

CLARK, R. V., M.B., Ch.B. Edin., D.P.H., has been appointed Medical Officer of Health of the Borough of Croydon.

CLEGG, JOHN GRAY, M.D., B.S. Lond., F.R.C.S. Eng., has been appointed Honorary Ophthalmic Surgeon to the Children's Hospital, Manchester.

CRUMP, J. A., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Welshpool District of the county of Montgomery.

FREEMAN, W. T., M.D. Durh., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Physician to the Royal Berkshire Hospital, Reading.

GOULDEN, HERBERT EDWARD, M.D. Durh., L.R.C.P. Lond., M.R.C.S., D.P.H. Cantab., has been appointed Medical Officer for the Tuberculosis Dispensary at Exeter.

MILTON, JOHN PENN, L.R.C.P. Lond., M.R.C.S., has been appointed Superintendent of the new County Sanatorium which is being erected at Hawkmoor, Bovey Tracey, Devon.

NOALL, W. PAYNTER, M.S. Lond., F.R.C.S. Eng., has been appointed … geon to the Brooke Dispensary and

ORT … LEYLAND, L.R.C.P. Lond., M.R.C.S., … n appointed Honorary Anæsthetist and Dental Surgeon to the Eye and Ear Infirmary, Liverpool.

PENMAN, J. FORREST, M.B., Ch.B. Edin., has been appointed House … nd Midland Eye Hospital.

ROB … Dub., has been appointed Clinical … Women, Soho-square.

SAY …). Brux., M.R.C.S., L.R.C.P. Lond., D.P.H., has been appointed Tuberculosis Officer to the Stonehouse District of the Devon County Council.

SCHOLEFIELD, E. H., M.B., B.Ch. Oxon., D.P.H. Manch., has been appointed Medical Officer to the Tuberculosis Dispensary at Barnstaple.

STEVENSON, EDGAR, M.D., C.M. Aberd., has been appointed Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 29, for Ophthalmic cases.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH, ROYAL UNITED HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

BERKSHIRE COUNTY COUNCIL.—Tuberculosis Officer. Salary £500 per annum

BRADFORD POOR-LAW UNION HOSPITAL AND WORKHOUSE.—Assistant … er, unmarried. Salary £130 per annum, … s, and laundry.

… RY.—Resident Surgical Officer, unmarried. … with board and residence.

… .—Resident Casualty Officer. Salary at rate of … per annum, with board, apartments, and laundry. Also Dental House Surgeon. Salary £100 per annum, with board, apartments, and laundry. Also House Physician. Salary £100 per annum, with board, apartments, and laundry. Also Obstetric and Ophthalmic House Surgeon. Salary £75 per annum, with board, apartments, and laundry.

BURNLEY, VICTORIA HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with residence, board, and washing.

CAMBRIDGE, COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, washing, and attendance.

CARSHALTON, SURREY, QUEEN MARY'S HOSPITAL FOR CHILDREN.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—Two A

CHELSEA … m-road, S.W.—House Surgeon, unmar

CITY OF LONDON LYING-IN HOSPITAL, City-road, E.C.—Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, lodging, and washing.

DAVOS PLATZ, SWITZERLAND, QUEEN ALEXANDRA SANATORIUM.—Medical Superintendent. Salary £200 per annum, with private flat, board, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and washing.

FRENCH HOSPITAL, 172, Shaftesbury-avenue, W.C.—Third Physician.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £75 per annum, with board, residence, and laundry.

HOSPITAL FOR SICK CHILDREN, Great Ormond street, W.C.—House Physician and House Surgeon, unmarried, for six months. Salary £30 each, with board, residence, and washing allowance. Also Casualty Medical Officer. Salary £…00 per annum, with luncheon.

HUDDERSFIELD ROYAL INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with board, residence, and washing.

LAMBETH, METROPOLITAN BOROUGH OF.—Assistant Tuberculosis Officer. Salary £300 per annum.

LEEDS, WEST RIDING ASYLUM, Menston.—Fourth Assistant Medical Officer. Salary £150 per annum, with board and apartments.

LEICESTERSHIRE COUNTY COUNCIL.—Tuberculosis Medical Officer. Salary at rate of £500 per annum.

LIVERPOOL, CITY INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

the first time under the provisions of the National Insurance Act, and
who were not patients of the particular doctors named; and whether,
L…view of the effect of pressure such as this or canvassing carried on
MA…the connivance of the doctors who were favoured by the officials of
…cieties upon the other doctors who had gone on the local panels,
MANCHE… patients were thus interfered with, the Insurance Com-
MARGATE, …ould have … prohibit societies from
CULOSIS.—…his man … swered: Every insured
with board, … to … the panel by whom he
METROPOLITAN … and the issue of any circular which conceals this
Salary at rate of …ble. If my honourable friend will inform me of
Assistant House Sur… circular has been issued stating that members
board and washing. … to select certain doctors who are named, I
NAVY MEDICAL DEPARTME…uld be taken.
Naval Forces in the United K
NEWCASTLE-UPON-TYNE, CITY … *Medical Committee.*
PENSARY.—Medical Officer. Sala… to the Treasury whether his
NOTTINGHAM CITY ASYLUM.—Second …passed by the London Medical
married. Salary £200 per annum, …mation of what was termed
laundry. … among the members of
OXFORD COUNTY ASYLUM, Littlemore, near Ox…), on the ground that
Medical Officer. Salary £150 per annum, wi… of Section 62 of the
and washing. …oners be satisfied

READING, ROYAL BERKSHIRE HOSPITAL.—Honorary Assi…ive of the 5500

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Me… of London; unmarried. Salary £150 per annum, with board, resi… the Com- washing. …er the

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Curat… The Librarian. Salary at rate of £120 per annum, with lunch.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL.—Second Resident House Surgeon, unmarried, for six months. Salary at rate of £100 per annum.

ROYAL NAVAL MEDICAL SERVICE.—Twenty five appointments.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISE… OF THE RECTUM, City-road, E.C.—House Surgeon. Salary £… annum, with board, lodging, and washing. the

ST. MARY'S HOSPITAL, London, W.—*Resident Assistant Anæsthetist*… six months. Salary at rate of £100 per annum, with board a… residence.

SALFORD ROYAL HOSPITAL.—Honorary Physician and Honorary Assistant Physician.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Surgeon to Out-patients. Also Assistant Medical Registrar for six months.

SHEFFIELD, SOUT… Wadsley.—Fourth Assistant Medical Officer … a, with board, &c.

STAFFORD, COTON … —Assistant Medical Officer, unmarried. Salary £160 per annum, with residence, board, and laundry.

STAFFORD, STAFFORDSHIRE COUNTY ASYLUM.—Assistant Medical Officer, unmarried. Salary £210 per annum, with apartments,

… STAFFORDSHIRE INFIRMARY, Hartshill.— …ary £100 per annum, with apartments, board,

… SPENSARY, Marylebone-road, N.W.—Honorary

… HOSPITAL, Marylebone-road, N.W.—Second House Surgeon for six months. Salary £40 per annum.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Assistant Honorary Surgeon in the Eye, Ear, and Throat Departments.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Pathologist and Bacteriologist. Salary £200 per annum.

WORCESTER GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Buckie, in the county of Banff; and at Moreton-in Marsh, in the county of Gloucester.

Births, Marriages, and Deaths.

BIRTHS.

NEWBY.—On Jan. 13th, at Addiscombe-road, Croydon, the wife of Gervase E. Newby, F.R.C.S., of a daughter.

PLOWRIGHT.—On Jan. 16th, at King's Lynn, the wife of Charles T. McL. Plowright, M.B., B.C., of a daughter.

MARRIAGES.

CAWSTON—WATERS.—On Jan. 18th, at St. John's, East London, Frederick Gordon Cawston, M.B., B.C. Cantab., M.R.C.S., L.R.C.P., to Agnes Constance, youngest daughter of Canon Waters, of All Saints', Tombuland, South Africa.

GASTER—NATHAN.—On Jan. 15th, at the residence of the bride's mother, Maisemore Mansions, Canfield-gardens, Anghel Gaster, M.D., M.R.C.P. Lond., to Mrs. Alice Nathan, widow of the late Henry Nathan.

DEATHS.

BANTOCK.—On Jan. 15th, at Elgin Mansions, Maida Vale, George Granville Bantock, M.D., in his 76th year.

BAYLEY.—On Jan. 19th, at Bryn-y-Neuadd, Llanfairfechan, Joseph Bayley, Medical Superintendent of St. Andrew's Hospital for Mental Diseases, Northampton, aged 77 years.

MATTHEWS.—On Jan. 18th, at Dovercourt, Essex, Samuel Richard Matthews, M.D., M.R.C.S.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

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have caus

Mr. Bo as asked the Chancellor of the Ex f Panels.
view of the decision arrived at on Saturday last
Meeting of the British Medical Association, it
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was intended to set up the Local Medico
GEORGE said in reply So far as I am aw
in the greater part of the kingdom, and import a medical man
their names The date of publicati ourhood of Southampton,
Local Insurance Committees. App uninsured members, male,
Local Medical Committee may b the local Friendly Societies, in
Commissioners for approval, the district, who have refused to

Replying to Sir J offered of 3s 6d. for juvenile and 4s for
doctors on the Lond Morgan, of George street, Eastleigh, has
Mr. MASTERMAN ent for a practitioner to take up the appoint
stated that he w declined to publish, and he has also written to
22 of the doc dical agent stating that the advertisement will
outside the columns, and that if he has a "good energetic practi
Mr Tot in his list "we are open to receive one" Mr Morgan
on the "If a good man comes along he can have free our support"
resigne We trust that the "good man" will not come along, and we are
Lond pleased to add that Mr. Morgan will get no assistance from the
medical agent to whom he applied.

UGANDA HEALTH REPORT.

REPORT on the Blue book of the Uganda Protectorate for the year 1911-12, prepared by Mr. H. R. Wallis, C.M G, Acting Governor, has just been presented to Parliament by the Colonial Office In the section devoted to vital statistics and public health it is stated that the present estimated population of the Protectorate is 2,843,325 In 1911 the European births numbered 18, marriages 4, and deaths 11 There are no reliable returns as to the number of births, marriages, and deaths of natives The health of European officials has been good 395 cases were placed under treatment in hospital, as compared with 356 in the previous year, the increase being doubtless due to the larger number of officials resident. Malaria and diseases of the digestive system were responsible for the greatest number of admissions There were 4 deaths of officials caused by illness during the year, and 4 cases of invaliding There were 2 cases of blackwater fever, both of which recovered. The total number of officials resident during the year was 233. In regard to the European population generally, the number of admissions to hospital was 662, as compared with 630 in the previous year. In 1911 the principal causes of admission and the numbers treated for diseases mentioned were malaria, 203, blackwater fever, 4, spirillum, 5; dengue, 5, enteric fever, 5, diseases of the respiratory system, 18, and digestive diseases, 152 Complete medical statistics of the European community are not, however, obtainable, as a large proportion of the non official population do not come under the treatment of Government medical officers The health of Asiatic officials in Government employ is only moderate There were 748 admissions to the sick list during the year and 5 deaths Of these numbers, 334 admissions were due to malaria and 5 to blackwater fever, which terminated fatally in 2 cases The total number of natives treated in all Government hospitals and dispensaries was 70,571, with 251 deaths, as compared with 66,365, with 263 deaths in the previous year. The rate of infant mortality among natives is alarmingly high, and is influenced probably by the prevalence of venereal disease and by the persistence of unhygienic customs amongst natives at the time of childbirth.

During the year under review measures for the control and suppression of sleeping sickness were greatly extended Additional areas were marked out and declared "infected areas" on the shores of Lake Albert, in the Nile district, and in the region of Lakes George and Edward Porter traffic to the Lado enclave has been limited to journeys on certain selected routes which are believed to be particularly free from danger of infection Porters are permitted to proceed only as far as the Congo posts near the border, and a limited time is allowed for the journey All porters proceeding along these routes are medically examined and registered Extensive clearing was commenced on the banks of the Victoria Nile between Foweira and Masindi Port to render the waterway safe A considerable movement of population from the infected area of Unyoro is in course of arrangement. In the Nile districts, owing to the scattered distribution of Glossina palpalis and to the present uncertainty in regard to the local efficiency, as carriers of sleeping sickness, of G morsitans and G pallidipes, which abound in this region, no extensive movements of population are at present considered advisable The total number of deaths from sleeping sickness reported was 1437, as compared with 1546 in the previous year.

Thirty four cases of plague came under treatment, of which 29 were fatal, the returns for the previous year were 17 cases and 13 deaths According to native returns the distribution of deaths from plague was as follows Buganda, 613, Busoga, 1256; Bukedi, 1773, Unyoro, 31; Toro, 22, total, 3695 These returns cannot be regarded as entirely trustworthy, but the medical officers are of opinion that the disease is on the increase in Bukedi. As has been previously reported, plague is widely endemic in the Protectorate, and minor epidemics, which are seldom heard of, occur from time to time among the natives of various parts A temporary plague hospital, with an isolation ward for contacts, exists at Mbale, which is the centre of the endemic area. Chiefs are encouraged to build segregation huts in villages, and are instructed to report all cases immediately on occurrence Native inspectors are employed to see that these instructions are carried out, and also to supervise the isolation of infected persons and contacts and the burning of infected clothing and huts No case of plague has yet occurred among the Asiatics in the infected area

In regard to small pox, medical officers visited epidemic areas, vaccinating contacts and many others, and destroying infected clothing and huts The epidemics which occurred were effectively checked Vaccination was performed in 3003 cases, as compared with 2491 in 1910 and 1654 in 1909 A permanent isolation hospital exists in Entebbe At other stations temporary huts are erected as required and destroyed when the outbreak is over Arrangements have been made with the native chiefs in Buganda and Bunyoro for the local segregation of lepers in small settlements Difficulties are experienced in providing for regular food supply and in ensuring adequate supervision, The sanitary condition of the principal stations is reported to be improving steadily. Organised systems for the removal and disposal of sewage and rubbish exist in larger townships and are being gradually extended It cannot be said, however, that the organisation of any of the stations is as yet completely satisfactory Lack of funds prevents more rapid progress In regard to the affairs of Uganda generally the year is reported to have been one of marked progress and development

ESPERANTO AND THE INTERNATIONAL MEDICAL CONGRESS

To the Editor of THE LANCET.

SIR,—At a meeting of the Universal Medical Esperanto Association (Tutmonda Esperantista Kuracista Asocio) held in Cracow last August a committee was appointed to organise an Esperanto section in connexion with the forthcoming International Medical Congress, similar to that which was held during the last International Congress in Budapest A considerable number of Russians, Poles, Hungarians, &c, stated that they would go to London if hopes could be held out of having such a section Will any Esperanto medical men or others willing to help kindly communicate with me?

I am, Sir, yours faithfully,
G JAMESON JOHNSTON, F R C S Irel.

13, Lower Fitzwilliam street, Dublin

THE NEED FOR AMBULANCES IN THE COUNTY OF LONDON

AT an inquest held at the City Coroner's Court recently attention was drawn *once more to the need for an efficient ambulance service* within the jurisdiction of the London County Council, such as already is provided in the City In the case in question the deceased was taken ill with apoplexy at the Islington Empire Theatre, and had to be conveyed *on a hand ambulance to St Bartholomew's Hospital,* where he died, more than half an hour thus elapsing before he could receive medical attention Dr F J Waldo, in commenting upon this to the jury, expressed his desire that the London County Council should go into the matter *and provide ambulances, but at the same time* he intimated that in his opinion the Council's numerous and varied functions already sufficiently occupied the attention of its members, and that the provision of ambulances would better be entrusted to *the Metropolitan Asylums Board Unquestionably the enormous* development of London's telephone system and of motor-car traffic has had little or no result in a phase of metropolitan life in which the telephone and the motor vehicle might by now have been playing *extremely useful parts Hardly any circumstance indirectly connected* with medical or surgical science could do more to increase the efficiency of our hospital system than the institution of a service which would *bring the patient suddenly taken ill or injured to the hospital with* the least possible loss of time, *and with the least possible likelihood of* injury through recourse to an unsuitable mode of conveyance,

NOTE BOOKS FOR DOCTORS AND NURSES

WE have received from Messrs Scott and Bowne copies of their useful little waistcoat note-books and diaries for 1913, adapted respectively for doctors and nurses The diary is a week to an opening with extra memoranda and cash pages *The doctor's book also contains data* relating to ambulances, bacteriological research laboratories inebriate retreats, homes, sanatoria, and lunatic asylums, legal information relating to medical matters, weights and measures, doses, X ray *work, the usual tables relating to incubation* periods, obstetrics, poisons, quarantine, weight and height, pulse and temperature, and so forth, addresses of associations for providing embalmers, male nurses and masseurs, messengers, and, of course, postal, wages, and other every-day information [illegible] this information is also contained in the *Nurse's Diary*, also data relating to the sick-room and cooking for the sick, confinem[illegible] disinfection, first aid, laying out, medical abbreviations and term[illegible] and much other matter likely to be of special service to nurses, not forgetting a space for register of engagements. Both books are neatly leather bound—the doctor's in blue, the nurse's in green—and contain a pencil in the back. As we are asked for suggesti[illegible] [illegible] might say that it would be a great convenience if [illegible] pockets for cards and postage stamps, so as to obviate the necessity of carrying a separate card case.

◆

Mr. John Dunlop, L.R.C.P.—The specimens sent are probably acari, but they are difficult to identify because they have been crushed between the slides. The best treatment would be by a weak solution of formalin—say 1 in 10. The acari probably do not come from the leather, but from the stuffing of the furniture. The solution suggested will not affect most kinds of stained leather.

Dr. R. A. Burns (Alabama).—Our correspondent's questions are too vague for detailed and precise answers. 1. He does not state in what part of the world it is wished to take the special courses in surgery, obstetrics, gynæcology, and diseases of children. 2. It is not clear which of the many contributions to the literature of hookworm disease and pellagra would be suitable.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Prof. W. H. Young: On the Formation of Usually Convergent Fourier Series.—Mr. R. V. Southwell: On the General Theory of Elastic Stability (communicated by Prof. A. E. H. Love).—Mr. C. M. Stubbs: A Spectro-photometric Comparison of the Emissivity of Solid and Liquid Copper and of Liquid Silver at High Temperatures with that of a Full Radiator (communicated by Prof. F. G. Donnan).—Mr. G. W Walker: On a New Analytical Expression for the Representation of the Components of Diurnal Variation of Terrestrial Magnetism (communicated by Prof. J. H. Poynting).—Prof. E. W. M[illegible] Magnetic Behaviour of Iron [illegible] Oscillatory Discharge from a [illegible] S. P. Thompson).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SECTION OF ODONTOLOGY (Hon. Secretaries—Stanley P. Mummery, Robert McKay): at 8 P.M.

Discussion

On Mr. Badcock's paper on "Orthodontics in Modern Practice" (re-opened by Mr. J. F. Colyer).

TUESDAY.

SECTION OF MEDICINE (Hon. Secretaries—Robert Hutchison, H. Batty Shaw): at 5.30 P.M.

Paper:

Dr. Noel D. Bardswell: Records of King Edward VII. Sanatorium.

SECTION OF PSYCHIATRY (Hon. Secretaries—R. H. Cole, Bernard Hart): at 8.30 P.M.

Paper:

Dr. F. W. Mott, F.R.S.: The Neuropathic Inheritance.

WEDNESDAY.

SECTION OF THE HISTORY OF MEDICINE (Hon. Secretaries—Raymond Crawfurd, D'Arcy Power): at 5 P.M.

Dr. Steeves: [illegible] Writings of Francis Bacon.

Dr. Raymon[illegible] [illegible] ome Plague Banners by lantern s[illegible]

Mr. B. Glanville Corney, I.S.O.: Some Oddities in Nomenclature and their Origins.

Mr. Alban Doran will give a demonstration of some Eighteenth Century Obstetric Forceps by means of the epidiascope.

Mr. D'Arcy Power will show, for Mr. Sidney Young, F.S.A., a Register of Sea Surgeons from 1707 to 1744.

THURSDAY.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretary—Chas. W. Buckley): at 5.30 P.M.

Discussion

On Fibrositis, opened by Dr. Llewellyn (Bath).

Dr. Stockman (Glasgow) will deal with the Pathology of the Condition.

Mr. Kenneth W. Goadby will deal with the Bacteriology of the Condition.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., Exhibition of Clinical Cases.

HARVEIAN SOCIETY OF LONDON, St. Mary's Hospital, Paddington, W.

THURSDAY.—8 P.M., Clinical Evening.

the first time under the provisions of the National Insurance Act, and who were not patients of the particular doctors named; and whether, [illegible] view of the effect of pressure such as this or canvassing carried on [illegible] the connivance of the doctors who were favoured by the officials of [illegible] societies upon the other doctors who had gone on the local panels, [illegible] patients were thus interfered with, the Insurance Com[illegible] would have immediate steps taken to prohibit societies from [illegible] this manner.—Mr. MASTERMAN answered: Every insured [illegible] right to select the practitioner on the panel by whom he [illegible], and the issue of any circular which conceals this [illegible] ure [illegible] able. If my honourable friend will inform me of the Diagno[illegible] circular has been issued stating that members

WEDNESDAY.—4 P.[illegible] [illegible] to select certain doctors who are named, I 5.15 P.M., Lecture [illegible] ould be taken.

THURSDAY.—4 P.M., [illegible]

5.15 P.M., Lecture:—[illegible] *Medical Committee.* Anæsthesia. [illegible] to the Treasury whether his

FRIDAY.—4 P.M., Mr. R. E. Bick[illegible] passed by the London Medical Lecture:—Dr. W. Wingrave: [illegible] mination of what was termed [illegible] among the members of

POST-GRADUATE COLLEGE, West Londo[illegible]), on the ground tha road, W. [illegible] of Section 62 of th [illegible] ioners be satisfie

MONDAY.—10 A.M., Dr. Simson: Diseases o[illegible] sitive of the 550 Mr. Addison: [illegible] of Minor O[illegible] Dr. Bernstein: [illegible] 2 [illegible] of London Surgical Clinic [illegible] Mr. D[illegible] the Com of the Eye. 5 P.M., Lecture:—Dr. G. Stewart: Dis[illegible] der th Pituitary Body.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Opera[illegible] 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wa[illegible] 12 noon, Mr. T. Gray: Demonstration of Fractur[illegible] 2 P.M., Medical and Surgical Clinics. X Rays. Ope[illegible]tions. Dr. Davis: Diseases of the Throat, Nose, and E[illegible] 2.30 P.M., Diseases of the Skin. 5 P.M., Lecture:—Dr. Lo[illegible] Yellow Fever.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. [illegible] Davis: Operations of the Throat, Nose, and Ear. 10.30 A.[illegible] Medical Registrar: Demonstration of Cases in Wards. 12 no[illegible] Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical a[illegible] Surgical Clinics. X Rays. Operations. Mr. B. Harm[illegible] Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.[illegible] Lecture:—Dr. Beddard: Practical Medicine.

THURSDAY.—10.30 A.M., Dr. Simson: [illegible] Demonstrati[illegible] 12.15 P.M., *Lecture:*—Dr. G. [illegible] Ca[illegible] 2 P.M., Medical and Surgical [illegible] Ope[illegible]tions. Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture Dr. G. Stewart: Diseases of the Pituitary Body.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operati[illegible] 10.30 A.M., Lecture:—Dr. Owen: Practical Medicine. 12.15 P.[illegible] [illegible] Pathology. 2 P.M., Medical [illegible] Operations. Dr. Davis: Dise[illegible] of the Throat, Nose, and Ear. 2.30 P.M., Diseases of the S[illegible] 5 P.M., Lecture:—Dr. R. Lloyd: Anæsthetics.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Da[illegible] Operations of the Throat, Nose, and Ear. Mr. B. Harm[illegible] Diseases of the Eye. 10.30 A.M., Surgical Registrar: Demons[illegible]tion of Cases in Wards. 12 noon, Mr. Souttar: Surgical Anat[illegible] of the Abdomen. 2 P.M., Medical and Surgical Clinics. X R[illegible] Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnou[illegible] Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. G. Holm[illegible] Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Big[illegible] Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surge[illegible] 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir D[illegible] Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Thro[illegible]

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. C. Sing[illegible] Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. [illegible] MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operatio[illegible] 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rank[illegible] Medicine.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. La[illegible]mead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choy[illegible] Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.[illegible] Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choy[illegible] Surgery.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holme[illegible] Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Bigg[illegible] Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W[illegible] Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 P.M., Dr. R. Wells: Medicine.

FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. C. Singer[illegible] Medical. Mr. A. J. Walton; Surgical. 12 noon, Dr. [illegible] MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operation[illegible] 2.15 P.M., Sir John Rose Bradford; Medicine. 3.15 P.M., M[illegible] L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmea[illegible] Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bickerto[illegible] Eye.——10 A.M., Dr. W. Steuart: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince [illegible] Wales's General Hospital, Tottenham, N.

MONDAY.—Clir[illegible] [illegible] (Mr. [illegible] Gillespie). [illegible] hipham Nose, Thr[illegible] [illegible], Clinic Pathology [illegible] Duncan

TUESDAY.—Cli[illegible] [illegible] dical Ou[illegible] patient (I[illegible] [illegible] Evans Gynæcolog[illegible] [illegible] In-patie[illegible] (Dr. A. J. Whiting). [illegible] Dr. A. E. Gile[illegible] Gynæcological, illust[illegible]

WEDNESDAY.—Clinics:—[illegible] [illegible] illies [illegible] Ski[illegible] 2.30 P.M., Children's [illegible] (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Ra[illegible] (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (M[illegible] Brooks).

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Mr Bo [illegible] asked the Chancellor of the [illegible] of Panels [illegible] patient
view of the decision arrived at on Saturday last [illegible] (Mr R P
Meeting of the British Medical Association, it [illegible] ic), Clinical
further time for the completion of the doctor [illegible] A Duncan)
was intended to set up the Local Medico [illegible] OF THE CHEST,
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[illegible] Lecture —Dr R Russell Intra

Replying to Sir J [illegible] al Lecture —Mr P Sargent: Trigeminal
doctors on the London
Mr MASTERMAN [illegible] Museum of the Hospital, Fulham road S W
stated that he w [illegible]
22 of the docto [illegible] P M, Mr R H J Swan Tumours of the Kidney
outside the [illegible] ed by cases and microscopic and other specimens)
Mr TOL [illegible]
on the [illegible] HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester
resigne [illegible] C
London [illegible] DAY —2 P M Dr W Griffith The Pathology of the Skin —
wi [illegible] 6 P M, Mr W Hampson X Rays Lupus, and Rodent Ulcer

THURSDAY —6 P M, Dr M Dockrell Coccus Diseases—I Impetigo Contagiosa, II, Furuncle, III, Carbuncle, IV, Coccogenic Sycosis

ANCOATS HOSPITAL, Manchester

THURSDAY —4 15 P M Mr J Morley: Relation of Appendicitis to Gastric Ulcer (Post Graduate Clinic)

MANCHESTER ROYAL INFIRMARY

TUESDAY —4 30 P M Dr Cunliffe Rheumatoid Arthritis and Osteo-arthritis (Post Graduate Clinic)

FRIDAY —4 30 P M Mr Burgess Prostatectomy (Post Graduate Clinic)

For further particulars of the above Lectures, &c, see Advertisement Pages

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A DIARY OF CONGRESSES

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement The following Congresses Conferences, and Exhibitions are announced —

March 17th 20th (Paris) —International Congress of Physical Education

(Easter week) (Berlin) —Fourth International Congress for Physiotherapy

April 3rd-9th (London) —International Congress of Historical Studies

" 6th-12th —Health Week

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ON

[illegible]Y OF ENDEMIC GOITRE.

[illegible] Royal College of Physicians of London
[illegible] 7th, 9th, 14th, and 16th, 1913,

[illegible]RT McCARRISON, M.D. R.U.I.,
M.R.C.P. LOND.,
MAJOR, INDIAN MEDICAL SERVICE.

(With Illustrative Plates.)

LECTURE III.[1]

Delivered on Jan. 14th.

MR. PRESIDENT AND GENTLEMEN,—It is my intention to-day to direct your attention to the progress which has been made towards the identification in the human body of the particular *contagium virum* which we have now ascertained to be the immediate cause of endemic goitre. We have seen that all attempts have so far failed to identify it outside the body of man; we will now proceed to consider what evidence there is of its existence in the body of sufferers from the disease.

On the entry of the *contagium virum* with the food into the human intestine three courses are open to it: (1) it may invade the blood and tissues, giving rise to a chronic infection; (2) it may reach the thyroid gland and exert its harmful influence in the gland itself; (3) it may remain in the intestinal tract, there producing poisonous substances which, on absorption, initiate the changes in the thyroid gland.

We shall now consider the evidence for and against these three possible modes of action of the organism, examining, in the first place, the possibility of a chronic blood infection.

THE BLOOD IN GOITRE.

In the year 1898 Dr. Grasset published an account of a hæmatozoon, which he found in the fresh peripheral blood of sufferers from goitre of 10 to 15 days' standing. Though I have often sought, in recent cases of the disease, for the parasitic elements described by Grasset, I have consistently failed to find them. McKenzie records a like experience. None of the numerous observers who have studied the blood in goitre have recorded the presence of blood parasites. Grasset himself does not appear to have followed up his discovery with more detailed observations as to the life-history of the organism. The Swiss Goitre Commission has devoted much attention to the question of the presence of blood parasites in goitre, but always with negative results.

Nor have blood inoculation experiments yielded any positive results. In 1907 I inoculated 2 c.c. of blood taken from a young man, the subject of a recent goitre, into the flank of a young monkey. Two inoculations were made at intervals of seven days, but no results were observed. The monkey remained in perfect health.

PARASITIC THYROIDITIS OF CHAGAS.

It is in these particulars, as well as in its symptomatology that the endemic goitre which we are discussing differs from the "parasitic thyroiditis" recently described by Dr. Carlos Chagas. This disease, which is endemic in Brazil, approximates in one of its forms so very closely to endemic [illegible] a slight [illegible] fore you [illegible] to point [illegible] me, the [illegible] implies, is essentially an acute condition. It is attended with pain in the thyroid gland, continued fever often high, enlargement of the lymph glands, spleen, and liver, and nervous symptoms of peculiar malignancy. Trypanosomes are readily found in the blood stream during the acute stage of the disease. The temperature remains elevated while the parasites are present in the blood. It affects young infants chiefly, and gives rise to an enormous mortality amongst them. If the disease does not terminate fatally within 15 to 30 days of its onset it lapses into a chronic form of illness, which is said to be characterised by the presence of goitre, often of very large size, and symptoms due to partial or complete loss of function of the thyroid mechanism, nervous symptoms, and affections of the heart. These symptoms are classified by Chagas, who groups them into "four forms." Patients show a peculiar colouring of the skin "different from the paleness of anæmia, and likened by Professor Austrigesilo to the appearance of pale bronze." Dependent on the degree of thyroid derangement the symptoms may be slight, of moderate intensity or very pronounced. It is possible, therefore, to meet with cases which are *practically indistinguishable from the usual type of* goitrous individual met with in endemic localities in Europe.

According to Chagas, these large degenerated goitres are the result of a schizotrypanum infection acquired during the early years of life. It is not possible to distinguish such cases from cases of true "endemic goitre" by blood examination, since the trypanosome, which is said to cause the goitre, disappears from the blood stream after the acute symptoms have subsided.

I find in the writings of Chagas and his helpers no reason to doubt the accuracy of many of his conclusions with regard to the acute form of the disease he has described. It is not equally clear, however, that the chronic goitres are due to the same cause which gives rise to the acute illness. Professor Kolle, of Bern, has informed me that, though he has produced some thyroid swelling in a rabbit by the injection of a culture of schizotrypanum cruzi into the artery leading to the gland, it has not been possible to induce the formation of a true goitre in this way.

Thyroid enlargements amounting to the formation of true goitre can, according to Bayon, be brought about by the injection of certain bacteria or their toxins into the gland; so that did the injection of a culture of trypanosomes give rise to a like result it could not be regarded as peculiar.

The work of Chagas is of the greatest interest, since, if it is confirmed, we shall have to recognise the existence of a form of endemic thyroiditis, due to a protozoal organism, together with the very important fact that a form of endemic goitre *can be conveyed from man to man by certain biting* insects.

We must not lose sight of the possibility that two forms of [illegible] I may use the term—may prevail [illegible] istrict, in the same way that two different forms of splenomegaly may be found to be endemic in the same locality. Nor must we lose sight of the possibility that a trypanosome infection may coexist in the same individual with goitre initiated by the endemic influences I have indicated to you. The only criticism of Dr. Chagas's admirable work which *I am at present disposed to make is* that he does not appear to have excluded, in a manner which leaves no room for doubt, the possibility that the form of trypanosomiasis which he has described may be an infection superimposed upon "endemic goitre," and not, as he considers the infection to be, the veritable cause of this malady in Brazil. However this may be, there can be no doubt of the differences which exist between the "parasitic thyroiditis" endemic in Brazil and the goitre endemic in Europe and in the Himalayas. Nevertheless, Dr. Chagas's work reminds us forcibly that all cases of goitre in endemic localities need not necessarily originate from the same cause.

Returning to our consideration of

THE HÆMATOLOGY OF ENDEMIC GOITRE,

we find that blood changes of a fairly definite character are almost always to be met with. I have made blood counts in 73 cases of goitre at all stages of the disease. I found that the polymorphonuclear leucocytes are below normal in 98·9 per cent. of cases; the small mononuclear leucocytes are above normal limits in 92·5 per cent. of cases; the eosinophile cells are above normal limits in 88 per cent. of cases, while the large mononuclear cells are increased in only 23 per cent. of cases. It was observed that these changes are most marked in recent cases.

Examination of *the fæces for intestinal worms* showed

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[1] Lectures I. and II. were published in THE LANCET of Jan. 18th (p. 147) and 25th (p. 219), 1913.

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that while often to be found, there was no evidence of their presence in the majority of the cases. The eosinophilia, therefore, cannot be accounted for in this way.

In blood taken from the thyroid gland itself by means of a hypodermic needle it was found that eosinophile cells were present in very large numbers. Twelve cases were examined in this way.

In the year 1906 I drew attention to these blood changes. Marine published similar findings in 1910, and pointed out that there was in addition a diminution of the hæmoglobin index and of the number of red blood corpuscles. The total number of leucocytes he found to be reduced in simple goitre. Miss Charlotte Millar has also found in cases of simple goitre an absolute reduction in the numbers of polymorphonuclear leucocytes down to 50 per cent. of the normal, and a hyperlymphomatosis of from 30 to 50 per cent. More recently Bauer, working in Tyrol, has also observed the increase of lymphocytes in this disease, while Lidsky and Kottman have found that the coagulability of the blood is increased.

The blood changes of exophthalmic goitre so far resemble those of endemic goitre that the polymorphonuclear cells are diminished and the mononuclear cells are increased in numbers. But by a somewhat strange antithesis, observed by Marine, the reduction of the red blood corpuscles and the increase of the eosinophile cells present in endemic goitre contrast with an increase in the former and a decrease in the latter in the exophthalmic form of goitre. These blood changes are not sufficiently characteristic as to make it possible by blood examination to distinguish, in doubtful cases, between endemic and exophthalmic goitre. In opposition to Professor Kocher, who emphasises the importance of blood examination as a differential test in early cases of Graves's disease, I am strongly of opinion that it is valueless for this purpose, and that its employment is calculated to lead to many errors of diagnosis and to the adoption of surgical methods of treatment which are not justified by the gravity of the patient's condition.

The blood changes in cases of endemic goitre give one an indication that perhaps in the intestinal tract is to be found the seat of infection, since similar changes are met with in certain intestinal infections.

Having failed, then, to find in the blood any indication of a chronic infection, we now turn to an examination of the thyroid gland itself and the changes which it undergoes in this disease.

PATHOGENESIS OF ENDEMIC GOITRE.

By reason of the lack of material it is not possible to study in the human subject the very earliest changes which result in the development of goitre. Goitres which are removed by operation are usually the seat of extensive degenerative changes which obscure the picture of the fundamental process. Our knowledge, therefore, has been acquired by a study of uncomplicated thyroid enlargements in animals, and is largely the result of the work of such observers as Horsley, Marine, Lenhart, Bayon, and others.

Now, though the following account of the pathogenesis of goitre, which I have compiled from the writings of our best-known workers on the subject, and largely verified by my own histological studies, is, I believe, *in the main, an accurate record of the changes* which take place, yet I am myself not fully satisfied that it affords a full and satisfactory explanation of the different stages in the development of parenchymatous and colloid goitre.

According to Marine and Lenhart, the earliest changes are to be observed in the blood-vessels, the epithelium, and the stroma of the organ, and these changes vary with the degree and stage of the process. There is, in the first place, a markedly increased blood-supply to the gland. The capillaries and larger vessels of the stroma are dilated and there is an increased secretion of colloid substance which is more liquid, thinner, and takes the stains much more lightly than usual (Bayon). The next step in the process is an increase in size of the cells lining the vesicles, which may vary greatly in degree. The cells may be cubical in mild degrees to high columnar in the severer degrees of hyperplasia. They are more closely packed, more highly granular, and the nucleus is more deeply staining than is the case in the normal gland. Should these changes occur rapidly the cellular lining of the vesicle may undergo folding or plication, an appearance which is constantly observed in the severer degrees of hyperplasia, but never to the same extent in simple goitre as in exophthalmic goitre. The cells may become so high as to fill the whole lumen of the vesicle, as I myself have observed to be the case in goats in which severe degrees of hyperplasia were induced by experiment. At this stage of the process the gland may not have increased in size; and there may be little or no colloid in the vesicles, its increased fluidity possibly favouring its discharge into the lymphatics and blood stream. According to Marine, however, there is a degree of enlargement proportional to the degree of hyperplasia. Marine and Lenhart have called this "the pre-clinical stage of goitre."

Coincident with the process of parenchyma hyperplasia, hyperplastic changes take place in the connective tissue stroma. These fibrotic changes may be slight or marked, diffuse or localised.

Bayon has demonstrated that, following the glandular hyperplasia, a desquamation of the epithelial lining of the vesicles occurs. The desquamated cells coagulate and form with the colloid "casts," which, in his opinion, further irritate the epithelium to increased secretion and proliferation. The increased secretion is retained in the vesicles, and as a result of the pressure of the colloid the lining epithelium of the vesicles loses its polyhedral shape and becomes cubical or even pavement-like. The dilated vesicles lose their rounded outline and become irregular in shape. Their walls become thin and may rupture, the coalescence of adjacent dilated vesicles giving rise to cyst formations. Vestiges of previous active hyperplasia are to be found in the form of occasional projections of the wall of the dilated vesicles, which are covered with cubical or columnar epithelium according to the stage of the process, in an increase in the connective tissue stroma and in obliterating endarteritis. Marine and Lenhart describe the process as a reversion of the gland to the "colloid state," and speak of the goitres so formed as "colloid goitres," a term which is, I think, more applicable at this stage of the process than "parenchymatous goitre," and one which should not be limited to those "parenchymatous goitres in which the colloid material is unusually abundant and obvious" (Berry).

The whole process is catarrhal, and in a sense compensatory in character, and results in the formation of an increased amount of colloid substance, which is to a large extent retained in the gland. The changes appear to differ in no essential from those described by Hürthle, Horsley, Murray, and Edmunds, as taking place in the portion of thyroid left behind after partial thyroidectomy in animals—a fact to which McKenzie drew attention in 1898.

"Colloid" goitres formed in this way may be subject to recurring attacks of hyperplasia, and consequently the gland increases in size by a step-like process, which accounts for the increases observed in the size of goitres at certain seasons in goitrous localities.

Since King and Horsley demonstrated that by pressure the colloid secretion could be made to pass from the alveolus by way of the interalveolar lymphatic spaces to the lymph vessels, it has been generally accepted that this is the route which the secretion follows in its course to the blood stream. Biondi has shown that it may also find its way into the lymphatics as a result of rupture of the alveolar walls; while Hürthle has demonstrated, by the injection of Berlin blue into the lymphatic spaces, the existence of minute intercellular channels which form lines of communication between the alveolus and the interalveolar lymph spaces. If it is true that under normal circumstances the thyroid secretion is discharged into the blood stream in this way, then in the development of goitre it appears evident that some impediment must exist to the escape of the secretion by way of the lymphatics. The work of Gutknecht, Todbelsky, and Horne indicates that this is probably the case, since colloid is absent from the lymphatics in a large proportion of cases of goitre, but present in the veins of the enlarged gland. Forsyth has made the interesting suggestion that in goitre there is a retention of colloid in the gland owing to the obstruction of the main lymphatic channels by a parasitic organism, and that the secretion, finding its way blocked by the usual channel, reaches the blood stream *via* the veins—a circumstance which would account for the absence of myxœdema in most cases of goitre.

The changes which I have described as characteristic of endemic goitre occur, as a rule, uniformly over the whole gland, but may be more apparent in some parts than in others. Amongst vesicles which have undergone the process of active hyperplasia and subsequent distension with colloid may be found others which have not been affected and which retain their normal characters.

There may also develop in the gland rounded or circumscribed masses apart from the main body of the goitre. These are usually called "simple adenoma" or "fœtal adenoma," according to their histological appearances. They may occur either in the form of a single nodule or of several nodules scattered through the gland, which, in developing, encroach on the normal tissues, causing atrophy. This adenomatous form of goitre is one which is very common in goitrous localities. It is, according to Bircher and Wilms, almost constantly met with in the artificially induced goitre of rats, in which animals a preponderating tendency to nodose hypertrophy is said to occur.

It is important to remember that degenerative processes early attack the thyroid gland which is, in the first instance, the subject of continued and increased glandular activity. The point is of the greatest importance to the physician, for it is obvious that to be successful, medicinal treatment must be commenced early, and that once degenerative processes have progressed to any extent, and have resulted in the formation of adenoma and cysts, medicinal treatment in any form must prove unavailing. In the great majority of all cases of parenchymatous goitre which come before the physician, the functional activity of the gland is impaired to some extent, and the patient exhibits symptoms corresponding in degree to the degree of impairment of glandular function.

We may sum up the changes which take place in the thyroid gland as a result of goitrous influences by saying that these influences *at first stimulate the organ to increased activity, but that the increased activity so induced is early followed by damage to the secretory epithelium, and by degenerative changes which impair its functional activity.*

THYROID HYPERPLASIA VARIOUSLY INDUCED.

Bayon has shown that all stages of simple goitre can be produced in various ways by experiment: (1) by ligaturing the thyroid artery; (2) by the injection of an emulsion of soot in sterile water into the thyroid gland; (3) by the injection of typhoid toxins into the gland; (4) by poisoning with phosphorus. As a result of his experimental work he has concluded that "any cause which is capable of altering the function of the thyroid so as to damage its secretory epithelium can lead up to the production of colloid, diffuse, or nodular goitre." When I come to consider the experiments dealing with the transmission of goitre from man to animals, it will be shown that thyroid enlargement can be produced by feeding goats on a highly fæcal polluted water, and that very marked hyperplasias can be brought about as a result of feeding these animals with cultures of micro-organisms grown from the fæces of goitrous individuals. The many forms of "thyroiditis" are examples of goitre due to micro-organisms of the class "bacteria," while certain protozoal organisms can also cause thyroiditis. Lastly, goitre can be produced by the poisonous substances generated in the body of man and animals, either as a result of metabolic processes or by the normal bacterial inhabitants of their intestinal tract. Examples of goitre due to poisons of this nature are the goitre of pregnancy and the congenital goitre of puppies born of a partially thyroidectomised bitch.

We thus see that "goitre" can be produced in a number of ways, but chiefly by the action of micro-organisms and toxic irritants. It is highly probable, therefore, that in the case of "endemic goitre" there must exist an irritant either in the form of a micro-organism present in the gland itself or of toxic substances circulating through it.

THE STERILITY OF GOITRE.

Many attempts have been made to find in the thyroid gland more definite evidence of the nature of the goitre-producing substance than that which is afforded by the pathological findings I have described. Since the year 1902 I have made repeated, but unsuccessful, examinations of blood obtained by thyroid puncture in recent cases of goitre.

Very careful histological examinations have been made by Hofer, Bonnet, and Pick in the case of trout goitres, but with negative results so far as the detection of a micro-organism was concerned.

Dr. Helen Chambers has examined 259 cases of innocent goitre, 30 of which were pure parenchymatous enlargements. She has recorded that—

> Several hundred sections have been made in some of the cases, and these have been treated by various methods of staining organisms in tissues. Bacteriological examination, including animal inoculation, has been made in a few cases. The result has been entirely negative. Nevertheless, the histological characters suggest a toxic substance *present in the thyroid gland—in some cases diffuse, in others localised.*

Professor Kolle, of the Swiss National Commission on Goitre, speaking on the work of this Commission, has stated:—

> Neither the use of the newest staining methods—for instance, Giemsa's staining of smear preparations, as well as the silver method, [illegible]

The Swiss Commission also carried out extensive inoculation experiments with a view to determining whether micro-organisms or other substances existed in the thyroid which could produce the disease when introduced into animals. Pieces of goitre were transplanted into the abdominal cavity of four apes. After one month the transplanted tissue was absorbed. The animals remained healthy. An emulsion of fresh goitre juice was injected intravenously into three rabbits, one dog, and one monkey. The result was *nil*, the animals remaining perfectly healthy. A similar emulsion was injected intravenously into five rabbits every week for three months. The result was negative.

Weichardt and Schittenhelm have recently demonstrated the presence of antibodies in the blood serum of rabbits inoculated with goitre-producing water. Their experiments, which promise useful results, are not yet completed.

Gelbride has examined bacteriologically the contents of eight cystic goitres. In seven the results were negative; in the eighth he obtained a culture of the streptococcus vermiformis of Sternberg. Horand also has reported the presence of a parasite in a goitrous cyst. In neither of these cases, however, is there sufficient evidence to justify the suspicion that the organisms found are causal agents in the production of goitre. The greatest care must be exercised in investigations of this kind. I, myself, have amongst my records a microphotograph of a diatom (navicula) found in the blood obtained by thyroid puncture from a case of goitre. Having regard to the fact that Klebs found naviculæ to be present in goitrigenous and absent in non-goitrigenous waters, the discovery of this organism exercised my mind greatly for some time. My repeated failure to meet with it again in the blood convinced me that the source of the diatom was the water in which my hypodermic needle had been sterilised. Nor is this the only organism I have met with, but in the other cases also I have convinced myself that their presence was accidental.

We see, then, that up to the present time there is no evidence of the existence in the thyroid gland of goitrous individuals of any specific *contagium vivum*—whether microscopic or ultra-microscopic—to which the malady could be attributed. We are led to consider, therefore, whether the increased glandular activity, and the changes which follow it, may not be due rather to some toxic substance circulating in the blood stream and emanating from an organism resident in the intestinal tract.

It is impossible to prosecute the inquiry without some appreciation of the proper functions of the thyroid gland.

THE FUNCTION OF THE THYROID GLAND.

The fact that the antitoxic and bactericidal resources of the body are largely dependent on the functional perfection of the thyroparathyroid mechanism is, I believe, as clearly established as is the influence of this mechanism on metabolism. I desire now to draw your attention to a few proofs of the thyroid gland's antitoxic action.

Sajous showed in 1902 that the injection of various bacterial toxins into man and the lower animals excited, more or less actively, according to their virulence, the thyroid gland's functional activity, while Bayon's researches show that the injection of bacterial toxins into the gland may lead to the actual formation of goitre. Farrant also has lately induced marked thyroid hyperplasia by the injection of diphtheria toxin into guinea-pigs; he demonstrated that the hyperplasia so induced could be controlled and greatly mitigated by the administration of thyroid extract at the same time as the toxin. Fassin found that the germicidal power of the blood was diminished by thyroidectomy. Charrin, Vincent, and Jolly drew attention to the fact that animals deprived of their thyroid glands are rendered very susceptible to infectious diseases, to which they readily succumb. Hürthle observed that by ligaturing the bile-ducts in dogs the thyroid secretion was increased; he attributed this change to the passage of certain constituents of the bile into the blood. Although this is doubtless possible, it may with equal reason be assumed that the operation, by depriving the intestinal contents of the biliary secretion, hastens putrefactive processes, and thereby fosters the absorption of an excess of toxic substances into the blood stream from the intestine. Turrô has found that the juices of swine's and sheep's thyroids dissolved almost entirely the comma, typhoid, and anthrax bacilli, as well as the bacillus coli communis and streptococcus. Gley showed that the blood serum of thyroidectomised dogs is more toxic than normal serum and gives rise to convulsions when injected into animals, while de Luca and d'Angerio have found that the urine of these animals contains a higher percentage of toxic substances than is normal, and that thyroid extract administered to them counteracted this toxicity.

While making every allowance for errors of observation, these and other findings of a like nature justify the belief that the thyroid gland contributes largely to the body's antitoxic and bactericidal resources.

In some animals low in the phylogenetic scale—amphioxus, ascidians, and lower vertebrata—the thyroid gland communicates with the pharynx by means of a duct. In fishes also this is the case, so that in these animals the thyroid secretion enters the body by way of the alimentary tract. It may be, as has been suggested by Andriezen, that the thyroid secretion is absorbed in fishes through the vascular arches, and enables the respiratory organs to take up oxygen and carry on the gaseous metabolism more readily. But, in view of the secretion's antitoxic and bactericidal action, its discharge into the pharyngeal cavity is, to my mind, an indication that it is intended to exercise this action in the alimentary tract. We have seen that trout develop goitre when confined in filthy, unhygienic tanks which are swarming with micro-organisms. It is highly probable that under these circumstances the thyroid gland is stimulated to increased activity, and that in consequence there is, at first, an increased discharge of colloid into the alimentary tract. But the reaction of the gland is early followed by an imprisonment of colloid in the organ, and other degenerative changes occur, which result in the formation of visible goitres.

These facts suggested to my mind the possibility that the *contagium vivum* of goitre might exist in the intestinal tract, a possibility to which the results of blood counts also pointed. Blum, in 1900, expressed the belief that goitre was due to the presence of a *living excitant in this situation*, but he advanced little proof in support of his contention. Let us now examine the evidence which, I believe, demonstrates the truth of this view.

INTESTINAL ANTISEPTICS IN THE TREATMENT OF GOITRE.

Acting on the assumption that the intestinal tract might be the seat of infection, I began in the year 1905 to try the effect of intestinal antiseptics in selected cases of the disease. My first case was that of a man suffering from a fairly large parenchymatous goitre. The man was admitted into hospital and salol prescribed. No result was observed during the first ten days. I then left Gilgit, and on my return, six weeks later, I found a very notable change had taken place in this case during my absence. Not only had the goitre almost completely disappeared, but there was a striking change in the man's general appearance. He was considerably thinner and the skin had lost its muddy look and become much clearer. Thinking that residence in hospital, and the comparative freedom from goitrous influences which is thereby entailed, had been in part responsible for the change, I commenced treating selected cases as external patients. All these patients continued to live under the same conditions of life as those under which the disease had been acquired; I further selected thymol as likely to prove a more efficient intestinal antiseptic than salol (*vide* Figs. 9 and 10).

I have treated well over 100 cases of goitre in this way, but in 82 only was I able to observe the final result of the treatment. Of these 82, 68 were cured, or so markedly benefited as to be practically so; while 14 were unaltered, or only benefited to a very slight degree. All were selected cases. Thirty-three were of three months' standing or less, 25 were of 12 months' standing or less, while 24 were of a year's standing or more. The great majority of these cases which could be regarded as cured or very greatly benefited were of less than one year's standing. A few were of longer duration. These were uniform [illegible] : some of them showing marked [illegible] the vessels of the neck. The majority of such cases react at once to treatment by thymol, and in some the swelling disappears with great rapidity. One meets with a few cases, however, which, though they appear to differ in no essential from others, are quite uninfluenced by the treatment, or indeed by any other medicinal treatment employed. Older cases respond less readily to treatment, but in some of these also the results are quite surprising. Cases in which there are changes in the gland of a permanent character are either not influenced by the treatment, or a certain shrinking of the gland around the cyst or tumour mass takes place, rendering them more clearly defined. This treatment, like all others of a medicinal nature, is applicable only to cases of recent origin where degenerative, cystic, and adenomatous changes have not yet taken place. Where such changes have occurred no form of medicinal treatment is of the slightest use.

When thymol is prescribed in such large doses as 10 gr. twice daily the patient's dietary should, of course, contain no solvents of the drug; otherwise most unpleasant symptoms of thymol poisoning may result. When this rule is observed no ill effects follow its use, even when administered for such long periods as three months. Apart from a few complaints of burning pain around the anus, none of my patients have been in the least inconvenienced by the treatment. The drug is best administered in the form of a coarse powder washed down by a draught of water. The bowels should be active, and if there is any tendency to constipation an occasional purge should be given.

A striking result of this treatment, and one which is noticeable in most of the photographs I have shown, is the loss of subcutaneous fat which occurs. The patient becomes more clean-limbed and the skin assumes a healthier tint. β naphthol, also, acts beneficially, though I have not given it the same extended trial as thymol.

The chief interest which attaches to the treatment of goitre by thymol is etiological rather than therapeutical. The germicidal power of thymol is very great. Ratimoff placed it fourth in the list of germicides, arranged according to potency (mercuric chloride, silver nitrate, iodine, and thymol). It is interesting to note that it is only slightly

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DESCRIPTION OF ILLUSTRATIONS IN SUPPLEMENT.

FIG. 6.—Shows appearance of neck at the time the experiment was commenced. Measurement, 33 cm. The experiments which are illustrated in Figs. 6, 7, and 8 are described in THE LANCET of Jan. 25th, p. 224.

FIG. 7.—The same subject. Photograph taken on the thirtieth day of the experiment. Measurement, 35 cm.

FIG. 8.—The first line represents the appearance of the normal thyroid gland of a white rat. The second shows the result of feeding rats on non-goitre-producing water. The third the result of feeding rats on goitre-producing water. The fourth the result of feeding rats on a goitre-producing water passed through Jura earth and through a Berkefeld filter. The fifth shows goitres produced in rats by the residue left on the membrane of the dialyser and by the residue left on the candle of a Berkefeld filter after the passage of goitre-producing water. (By permission of Dr. E. Bircher.)

FIG. 9.—Case 62. Appearance of patient's neck prior to the commencement of treatment by thymol. Measurement, 41½ cm.

FIG. 10.—The same case eighteen days after the commencement of treatment. Measurement, 38 cm.

FIG. 11.—Goitre in a boy, aged 12, treated by "soured milk."

FIG. 12.—The same case after thirty days' "soured milk" treatment. Note complete disappearance of goitre and great loss of subcutaneous fat.

FIG. 13.—Shows the changes brought about in the size of the thyroid gland of rats as a result of giving th [illegible] period of nine months. The first line [illegible] of normal rats as seen from behind; th [illegible] produced goitres; whilst the third l [illegible] which resulted from the consumption of water raised to a temperature of 99° to 100° C. for several minutes. (See issue of Jan. 18th, p. 154.)

FIG. 14.—Parenchymatous goitre treated with "coli" vaccine. Before, 42 cm.

FIG. 15.—Parenchymatous goitre treated with "coli" vaccine. After, 37·5 cm.

less powerful than that "specific" for goitre—iodine—in its germicidal action.

Cooper, in his recent researches on the bactericidal action of the cresols and allied bodies, states that in the absence of particulate organic matter thymol is 25 times as powerful a disinfectant as phenol, and 10 times as powerful as the cresols to bacillus typhosus. He also showed that emulsified thymol is 23 times as powerful as phenol in the absence of particulate organic matter, and 7½ times as powerful in the presence of 3 per cent. of dried fæces. So that it is a very powerful germicide indeed.

Now thymol is not readily soluble in water (1 in 1500), so that in the absence of any of its solvents, such as fats, oils, lcohol, and vinegar, it is very sparingly absorbed into the system when administered in the form of a coarse powder. Its action is, therefore, in all probability a local one in the gut. I regard the action of the drug as very strong, though not conclusive evidence that the habitat in man of the organism responsible for the production of goitre is the intestinal tract. The drug appears to act either by destroying the living *excitant* of goitre, or by reducing its numbers or activity in such a way that the production of toxic substances is lessened, and the thyroid gland is relieved of the excessive demand for its secretion which necessitated the hypertrophy.

It is well known that iodine is regarded as a specific for goitre. I believe that its beneficial action is largely due to its *powerful germicidal properties, which are even more* marked than those of thy[illegible] ing to the thyroid that [illegible] activity of its secretion [illegible] stration of iodine also leads to leucocytosis, a very desirable object to attain where there is usually a marked reduction of the polynuclear cells of the blood. Its use is attended *with a loss of weight and subcutaneous fat, and if the treatment* is carried to excess dangerous wasting and palpitation of the heart and other symptoms may arise.

LACTIC ACID BACILLUS IN THE TREATMENT OF GOITRE.

The action exercised by the lactic acid ferments when applied to the treatment of recent cases of goitre affords additional evidence that the agent responsible for the production of goitre has its habitat in the intestinal tract of man. In carrying out this line of treatment I have used the fresh cultures in milk of the bacillus bulgaricus. I have treated up to the present time only eight cases in this way, but the results have been very striking. My patients were under treatment for a period of one month to six weeks. To some 12 to 20 oz. of "soured milk" were given every morning before the first meal of the day, to others 10 oz. were given in the morning and 10 oz. in the evening. The cases were all of several months' standing, and during treatment there was no change whatever in the manner of life of the patients. They were treated as external cases, and carried out their work in the fields as usual. The results cannot be attributed, therefore, to change of locality, habits of life, or water-supply. Of these eight cases, four were cured, two improved, and two showed no appreciable difference after six weeks. In those cases which were benefited by the treatment it was observed that the thyroid gland began to show evidence of diminution in size about the tenth day of treatment, and that the patients lost flesh. (Figs. 11 and 12.) The latter fact is of great interest, inasmuch as it is observed to occur also *as a result of the treatment of goitre by means of iodine* and thymol.

VACCINES IN THE TREATMENT OF GOITRE.

The next step in my investigations was the employment, in the treatment of the disease, of vaccines prepared from bacteria found in the fæces of sufferers from goitre. A full account of the preparation and use of these vaccines will be found in a paper published in THE LANCET of Feb. 10th, 1912, p. 357. Three vaccines were so employed. The first, a composite vaccine made from such organisms as grew on Musgrave's agar; the second, a "coli" vaccine made from the patient's own strain of bacillus coli; the third, a vaccine prepared from a spore-bearing organism which was isolated from the fæces of a goitrous pony. The results obtained by the use of these vaccines were very remarkable, and a complete disappearance of the thyroid swelling took place in all [illegible] in the [illegible]atment with "coli" vaccine in a man aged 23.

Vaccines prepared from organisms derived from sources other than the patient's own fæces were then employed, and equally striking results were obtained with a staphylococcus vaccine—the staphylococcus having been derived from a case of caries of bone. Considerable interest attaches to the fact that a staphylococcus vaccine exercises such a remarkable influence on the enlarged thyroid gland, since the organism is also a normal inhabitant of the intestinal tract of man. The significance of these results is discussed in the paper above referred to.

The vaccine treatment of goitre is further confirmation of the view which I have enunciated that goitre is due to the presence of a living organism of disease in the intestinal tract. It demonstrates also that the thyroid gland is markedly influenced by the nature of the bacterial flora of the gut, and that one of its chief functions is to protect the body from the many toxic substances which find their way into the blood stream from the alimentary canal. The remarks which I have made with regard to the treatment of goitre by thymol apply also to its treatment by means of vaccines. The method is of use only in fairly recent cases of the disease in which degenerative processes have not yet involved the gland to any extent.

FIG. 16.

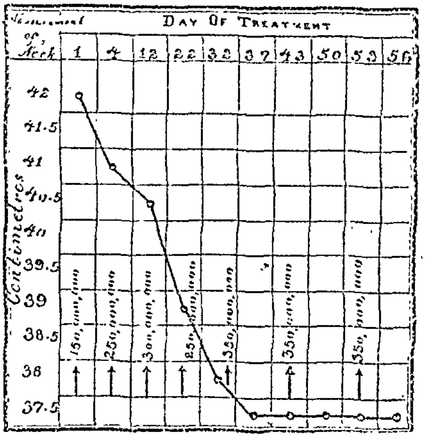

Chart showing measurements of neck at various stages of treatment with *doses and times of administration of* vaccine.

A conspicuous feature of this treatment, and one which brings it into line with the treatment by iodine, intestinal antiseptics, and the bacillus bulgaricus, is the fact that the patients lose flesh and the skin becomes of a healthier tint. The common factor in all these methods of cure is to my mind the fact that they destroy or inhibit the action of the toxic agent of the disease. Iodine, thymol, and B. bulgaricus do so by their antisepticising action in the gut, while the vaccines employed attain the same end by a more complicated process of immunisation. Cases in which these various therapeutical measures may be employed with success are those which also respond to treatment by thyroid extract, showing that the goitre is a response to a demand for thyroid secretion which, when supplied artificially, enables the hypertrophied organ to subside. Iodine, thymol, and vaccines destroy or inhibit the action of the agent which institutes the demand, but since they do so comparatively rapidly, and while the organ is still enlarged, the secretion which is stored up in the dilated vesicles is for a time in excess, the demand for it having been removed. The excess of secretion, therefore, which continues to reach the blood stream, until such time as the gland regains its normal equilibrium, exerts its influence in increasing the metabolic processes of the body, and a loss of subcutaneous fat is the result.

Let me now briefly recapitulate the evidence in favour of the intestinal tract as the seat of infection in goitre. The toxic agent of the disease reaches this situation through the medium of water or food, a situation into which the secretion of the thyroid gland is known to be thrown in certain of the lower animals. This secretion possesses, to a high degree, bactericidal and antitoxic powers. A powerful antiseptic which exerts its action in the gut cures the disease, as does the lactic acid bacillus, which acts by inhibiting the production by the intestinal flora of poisonous indols and phenols. Lastly, vaccines, prepared from organisms which are known to be normal inhabitants of the bowel, cause the disappearance of goitre. It is my belief that short of the actual identification of the toxic agent of the disease, stronger evidence of the truth of my contentions could hardly be conceived.

It has been objected that intestinal toxæmia is nowadays made to account for many disorders for which no better explanation can be found. This may be so, but I hope that those who have listened to my argument will agree with me that the evidence before us removes this view of the causation of goitre from the region of doubtful hypothesis to that of practical certainty. It is true that nature has provided a sentinel in the liver, standing at the exit of the portal system, to deal with the poisons which are produced in the intestinal tract, but nature has provided also an additional safeguard in the shape of an antitoxic secretion in the blood, which encounters the poisons absorbed from the bowel at the very point of their absorption. To emphasise the importance of the thyroid's antitoxic function is not to minimise the importance of the liver; both are units in the great army of defence, and to put one such unit out of action is to throw a greater strain on another.

LECTURE IV.

Delivered on Jan. 16th.

Mr. President and Gentlemen,—The process of reasoning which we have followed has led us to the conclusion that the *contagium vivum* of endemic goitre inhabits the intestinal tract of man; but the culminating test of the truth of this conclusion can only be afforded by a recognition of this organism as present in the intestinal content and its transmission from man to animals. This point has not yet been attained.

The Fæces in Goitre.

I have examined microscopically the fæces of a large number both of goitrous and of normal individuals in Gilgit.

In a paper published in 1909[2] I have figured and given a brief description of the varieties of amœbæ met with. In 103 cases of goitre in which the fæces were examined I found amœbæ present in 87. In 48 cases they were found in large numbers, in 27 in moderate numbers, and in 12 only after considerable time had been spent in searching for them. The fæces of 101 non-goitrous individuals, living in the same locality, were also examined. In 29 of these amœbæ were present; the infection was plentiful in 8, moderate in 9, and scanty in 12. The eight-nucleated cysts, which are typical of one of the varieties of amœbæ met with, were found also in samples of fæces sent to me by Colonel Macnab, I.M.S., from cases of the disease which occurred in the boys' school at Simla. *While no definite statement can be made as to the pathogenicity of these amœbæ*, their *possible* importance is obvious when it is remembered that goitre is due to an organism carried by water.

I must take this opportunity to point out clearly that I do not assert, and have never asserted, as is sometimes stated by continental writers, that goitre is due to the presence in the intestines of the amœbæ I have described. My study of these organisms was but the beginning of an investigation of the protozoa parasitic in the intestines of residents in localities where goitre is endemic—an investigation which I regard as of primal importance.

Various experimental procedures have been adopted by the Swiss Goitre Commission with a view to demonstrating the presence of a specific virus in the fæces: 1. Intravenous injections of a filtered solution of *normal fæces* have been made into rabbits. The operation was repeated seven times in one case, but with negative results. 2. Intravenous injections of a filtered solution of *goitrous fæces* have been made into rabbits. The operation was repeated eight times. The thyroid did not enlarge. 3. Intravenous injections of a solution of normal fæces in chloroform and of goitrous fæces in chloroform have also given negative results.

There still remains, therefore, much work to be done; and it is my hope, should the circumstances of my service permit, to continue the prosecution of research in this direction.

Experiments dealing with the Transmission of Goitre from Man to Animals.

Since the year 1906 I have repeatedly endeavoured to transmit goitre from man to animals by infecting the water-supply of the latter with the fæces of sufferers. No effects being observable in dogs, I undertook a series of experiments on goats in the hopes of arriving at results of a positive character.

Female goats were selected for these experiments. They were taken from the same flock, were between the ages of one and two years, and were not pregnant. This point is of importance, since the increased activity of the thyroid gland during pregnancy would vitiate the results observed on microscopical examination of the organ. The goats were brought from a non-goitrous locality, high up in the mountains, about 40 miles distant from Gilgit. Their thyroids were carefully examined and were found to show no signs of hypertrophy. In the majority either the gland could not be distinguished from the surrounding tissues or could be felt only with the greatest difficulty. Where the organ was palpable it was found to be oval in shape and about the size of a small almond. The goats were divided into batches, which will be referred to as I., controls (3 goats); II., Batch X (6 goats); III., Batch Y (7 goats). Each batch was confined in a separate pen. The animals were all fed on leaves and young branches of trees, in order to exclude as far as possible sources of contamination from the soil. The experiment was designed so as to foul the drinking water of Batches X and Y, while that of the controls remained pure.

The apparatus which I devised for this purpose is represented by the figure (Fig. 17). It consisted of a drum, A, which was fitted with a tap. A covered wooden box, B, having a perforated false bottom of wire gauze under which was a wooden trough sloping towards an outlet pipe, B. This outlet pipe led into a flask C, which was fitted with a perforated cork, so as to ensure freedom from contamination by soil, dust, &c. The drum, A, was filled with a non-goitre-producing water which had been previously boiled. A trickle of water from the drum, A, was allowed to pass continuously into the box, B. This box was partially filled with soil taken from the most goitrous village in Gilgit. The soil was sterilised by steam at 230° F. for 30 minutes, and was then mixed with the fæces of sufferers from incipient goitre. Fresh fæces were added to the mixture several times a week during the course of the experiment. The water from the drum, A, trickled into the box, B, saturated the mixture of sterilised earth and fæces, and, passing through the perforated bottom of the box, found its way, by means of the wooden trough and outlet pipe, B, into the corked flask, C. This was the only drinking-water provided for the goats of Batches X and Y.

A separate apparatus was used for each batch. In the case of Batch Y, however, 500 earthworms were introduced into the box, B. The earthworms were added with a view to determining whether they might act as intermediate hosts for the organism suspected of causing the disease. The water-supply of both batches was, therefore, grossly contaminated with the fæces of sufferers from goitre, while in the case of Batch Y the drinking-water contained such additional matter as was derived from the excreta of the earthworms.

The experiment was commenced on Oct. 13th, 1910, and terminated on Dec. 15th, 1910. The thyroid glands of the controls showed no change during the 64 days of the experiment. In the case of the goats of Batches X and Y, however, it was observed that (1) all the animals lost in weight; (2) many of them suffered from diarrhœa; (3) 50 per cent. of the goats in each batch showed enlargement of the thyroid gland.

It was observed that the thyroid glands of two of the goats in Batch X showed signs of enlargements, as determined by palpation, as early as the thirteenth day of the experiment. A second noticeable feature was the manner in which the glands fluctuated in size. It will be remembered that goitre in man, whether artificially produced or naturally acquired, shows the same tendency to fluctuate in size in its early stages This is due, I believe, to the alternate emptying and distension of the vesicles with colloid

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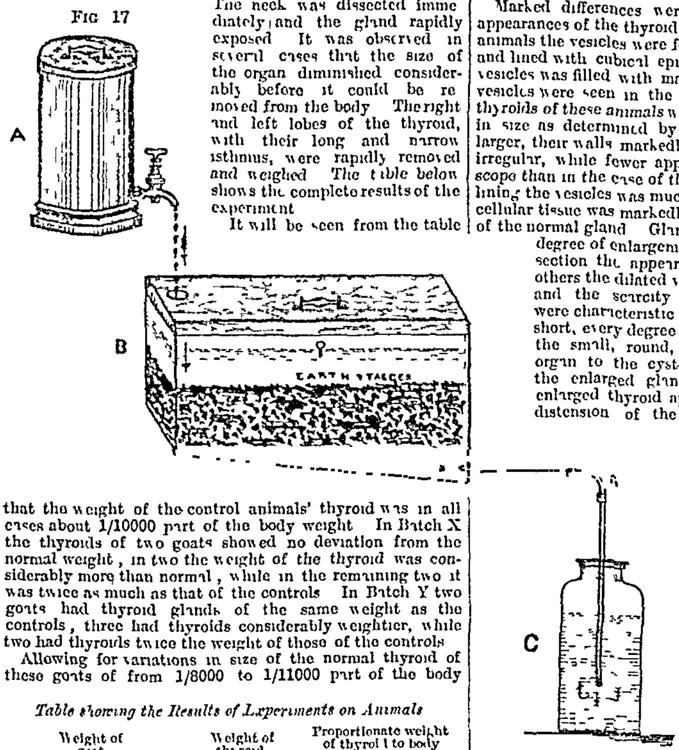
[2] Quarterly Journal of Microscopical Science, 1909.

The animals were killed by a goorkha skilled in severing the head from the body at one stroke of his kookrie (knife) The neck was dissected immediately and the gland rapidly exposed It was observed in several cases that the size of the organ diminished considerably before it could be removed from the body The right and left lobes of the thyroid, with their long and narrow isthmus, were rapidly removed and weighed The table below shows the complete results of the experiment

It will be seen from the table that the weight of the control animals' thyroid was in all cases about 1/10000 part of the body weight In Batch X the thyroids of two goats showed no deviation from the normal weight, in two the weight of the thyroid was considerably more than normal, while in the remaining two it was twice as much as that of the controls In Batch Y two goats had thyroid glands of the same weight as the controls, three had thyroids considerably weightier, while two had thyroids twice the weight of those of the controls

FIG 17



Apparatus employed for contaminating the water

Allowing for variations in size of the normal thyroid of these goats of from 1/8000 to 1/11000 part of the body weight, it will be admitted that about 50 per cent of the animals in Batches X and Y showed enlargements of the thyroid gland It is possible that conclusions based on the weight of such a variable organ as the thyroid gland may prove fallacious, but as the goats were taken from the same flock and were of the same season and sex the margin of error was reduced to the minimum Since the same results were observed in the goats of Batches X and Y, earthworms would not appear to be concerned in the spread of the disease

Table showing the Results of Experiments on Animals

Weight of goat	Weight of thyroid	Proportionate weight of thyroid to body weight
I —Controls—three in number—which Consumed only Pure Water		
(1) 60 lb	3 2 grm	1/10000
(2) 43	2 05 „	1/10439
(3) 65 ,	3 2 ,	1/10100
II —Batch X—six in number—which Consumed only Fæcally Contaminated Water		
(1) 48½ lb	3 6 grm	1/6654
(2) 26½ ,	2 93 „	1/4500
(3) 38 ,	2 3	1/8000
(4) 30 ,	1 5 ,	1/10000
(5) 22½ ,	2 32 „	1/4800
(6) 29 „	1 35 ,	1/10700
III —Batch Y—seven in number—which Consumed Fæcally Contaminated Water as in the Case of Batch X, together with the Excrementitious Products of Earthworms		
(1) 50½ lb	4 0 grm	1/7000
(2) 41½ „	4 3 ,	1/4850
(3) 56 „	3 7 ,	1/7530
(4) 55½ „	3 6 ,	1/7700
(5) 49½ ,	5 4	1/4272
(6) 45 „	1 9 ,	1/11700
(7) 39 „	1 9	1 10000

Marked differences were observed in the microscopical appearances of the thyroid in these animals In the control animals the vesicles were found to be small, round, compact, and lined with cubical epithelium The space between the vesicles was filled with masses of rounded cells, and many vesicles were seen in the field of the microscope In the *thyroids of these animals which showed the greatest increase* in size as determined by weight the vesicles were much larger, their walls markedly thinner, and their outline more irregular, while fewer appeared in the field of the micro*scope than in the case of the normal gland* The epithelium lining the vesicles was much flattened and the intravesicular cellular tissue was markedly less in amount than in the case of the normal gland Glands which showed an intermediate degree of enlargement presented in some parts of the section the appearances of normal tissue while in others the dilated vesicles, flattened epithelial lining, and the scarcity of intravesicular cellular tissue were characteristic of the more enlarged organs In short, every degree of variation was met with, from the small, round, compact vesicle of the normal organ to the cyst-like dilatation of the vesicle of the enlarged gland The increase in size of the enlarged thyroid appeared to be due wholly to the distension of the vesicles with colloid material Photomicrographs show these *points of distinction clearly*

For the purpose of comparison I now show you a *photomicrograph of a large* external trout goitre, which is taken from a paper by Marine and Lenhart The large dilated vesicles filled with colloid and the thinning of the vesicle walls are well seen

This experiment proves that an enlargement of the thyroid gland of goats can be induced by infecting the water supply with the fæces of sufferers from goitre It does not amount to proof that the enlargement so induced is due to the action of a specific living excitant of goitre, it might be due only to the organic impurity of the water

In 1911 I repeated this experiment Twelve female goats, aged 2 years, were employed In this case the animals were much better fed their ration consisting of 1 lb of grain and as much lucerne grass as they could eat The experiment was continued for 107 days At the end of this time seven of the animals were taken at random and killed in the manner I have described The *accompanying* table shows the weights of the thyroid glands as compared with the body weight of the animals —

No	Weight of animal	Weight of thyroid	Proportionate weight of thyroid to weight of animal
I	42 lb	2 8 grm	1 7 466
II	42 ,	3 0 ,	1 6 999
III	38 ,	1 3 „	1 14 600
IV	55 „	3 1 „	1 8 800
V	45 ,	2 5 ,	1 9 000
VI	46 „	1 4 ,	1 10 400
VII	28 „	1 7 ,	1 8 000

In three of these animals the thyroid gland was considerably larger than normal The increase in size, however, was not so marked as in the first experiment, a difference which may be attributed to the fact that the animals in the experiment were better fed and gained in weight, whereas those in the first experiment had *lost* in weight. Two animals had thyroid glands below the normal weight, while two showed no marked deviation from the normal size. The histological appearances of the glands of these animals varied very considerably. I shall indicate only the appearances observed in the case of those glands which were above the normal weight (Nos. 1, 2, and 7). Nos. 1 and 2 were identical in appearance. The vesicles were on the whole larger, more irregular in shape, and the total amount of colloid was greater than in the case of the normal gland. The epithelium lining the vesicles was somewhat higher than normal. The thyroid in these cases did not present the same degree of dilatation and irregularity of the vesicles, nor the marked flattening of the epithelium, which was observed as a result of the first experiment. Indeed, apart from the increase in size of the organs, it cannot be said that the histological appearances differed in any marked extent from the normal gland.

The histological appearances of the thyroid gland of goat No. 7 revealed a considerable degree of hyperplasia. The vesicles were small, the amount of colloid comparatively scanty, the lining epithelium was columnar, and the vessels of the gland were dilated. The gland was markedly more cellular than any other in the present experiment.

Experiments on goats were also carried out to test the effect of feeding these animals on cultures of micro-organisms grown from the fæces of goitrous individuals.

Four female goats, aged 2 years, were gives 48-hour cultures on Musgrave's agar of such organisms as grew on this medium after inoculation with the fæces of a goitrous individual. An emulsion of the bacteria present was introduced into the stomach of the animals by means of a funnel every other day for 61 days. At the end of this time a similar emulsion of a spore-bearing bacillus, which had been isolated from the fæces of a goitrous horse, was administered on alternate days for a further period of 47 days. The animals were then killed and their thyroid glands examined microscopically. The accompanying table shows the weight of the thyroid gland in each case relative to the body-weight of the animal:—

No.	Weight of animal on Jan. 20th.	Weight on May 7th.	Increase in weight.	Weight of thyroid.	Proportionate weight of thyroid to body-weight of the animal.
I.	42 lb.	54 lb.	12 lb.	1·0 grm.	1 : 27,000
II.	48 ,,	65 ,,	17 ,,	2·3 ,,	1 : 13,000
III.	37 ,,	40 ,,	3 ,,	2·0 ,,	1 : 10,000
IV.	32 ,,	41 ,,	9 ,,	1·6 ,,	1 : 12,000

It will be observed from the table that:—1. All the animals increased in weight. In No. 2 the increase was very marked. In No. 3, in which the thyroid was of normal weight, the animal increased only 3 lb. in weight. 2. In three cases out of four the thyroid gland was smaller than normal; in No. 1 very markedly so. There was, therefore, in these animals no evidence of any enlargement of the thyroid gland (goitre). But well marked histological changes were observed in all animals in which the thyroid showed considerable deviation from the normal weight. I shall refer only to two of these:—

In No. 1 the vesicles were round or oval, lined with cubical or low columnar epithelium; the colloid was small in amount; a large area of parathyroid-like tissue formed about one-half of the total sectional area of the gland. This area was wholly cellular and showed an absence of colloid. The capillaries and vessels of the stroma were dilated; there was some increase of the connective tissue stroma of the organ, especially around the blood-vessels, the walls of which appeared somewhat thickened.

In No. 2 formed vesicles were almost wholly absent, or were filled with round, imperfectly-staining cells and cellular débris; where vesicles were seen they were lined with irregular, high columnar epithelium, the lining being often incomplete in parts. Stainable colloid, with the exception of a few densely stained particles, was almost wholly absent. The stroma was increased markedly in amount, and formed a network, the meshes of which were filled with round cells and cellular débris. The capillaries of the organ were not noticeably altered. The appearance of the gland, together with the greatly increased weight of the animal (17 lb.) were suggestive of a commencing myxœdema.

The peculiar histological features of these cases find a parallel in some cases of rat goitre, due to the consumption of the Aarau water residue, recently recorded by E. Bircher, which are sufficiently interesting to merit detailed description. One of these cases is that of a young rat which was given the residue mixed with its food for a period of 12 months. The growth of the animal was considered to have been backward. The thyroid gland showed a moderate enlargement about the size of a pea. On section the gland presented the appearance of an irregular frayed network. Microscopically, normal follicular tissue was nowhere to be seen. The nodose hypertrophy, which is said to be so characteristic of rat goitre, was conspicuously absent. There was a pronounced cellular disintegration and desquamation of the epithelium into the lumen of the vesicles. The epithelial lining was incomplete and frayed; the cell nuclei were altered in appearance and in their staining characters. The vesicles were irregular and communicated one with another, forming irregular spaces. The blood-vessels were dilated, and perivesicular hæmorrhages had taken place. Small particles of intensely staining hæmatogenous colloid were present in the vesicles; the colloid was not vacuolated. Many small darkly-staining nuclei were present. The whole presented a picture of a confused cell chaos. Bircher diagnosed the case as one of "struma degenerativa." Similar changes were observed in goitres produced in rats by means of the material separated from the water by the septum of the dialyser. In these also the nodose hypertrophy, characteristic of rat goitre, was absent.

With regard to the defects of growth especially observed in those rats fed on the residue of goitrigenous waters, and on which Bircher lays such stress—having myself seen the conditions under which these animals are kept, conditions which, though by no means bad, are certainly favourable to the development of many diseases other than goitre or cretinism—I feel bound to record my opinion that, in attributing these defects to the specific agent of goitre, Bircher is overlooking other common causes of defective growth.

Coincident with my last experiment, four other female goats were given the same cultures in the same way and for the same length of time, but one hour prior to the administration of the culture a few grains each of the carbonates of lime, magnesium, and sodium were given to the animals. My object in giving them these salts was to ascertain whether the development of goitre was favoured thereby. Three of the four goats were killed at the end of 108 days. The following table shows in each case the weight of the thyroid relative to the body-weight of the animal.

No.	Weight of animal on Jan. 20th.	Weight of animal on May 7th.	Increase in weight.	Weight of thyroid.	Proportionate weight of thyroid to body-weight of the animal.
I.	44½ lb.	55 lb.	10½ lb.	1·5 grm.	1 : 18,200
II.	41 ,,	55 ,,	14 ,,	1·45 ,,	1 : 16,000
III.	37½ ,,	45 ,,	7½ ,,	2·1 ,,	1 : 10,630

No. 1 showed on microscopical examination a slight increase in the connective tissue stroma; scanty, darkly staining colloid; vesicles, round or oval, and either filled with cells or lined with a high columnar epithelium. The vessels were dilated. The changes indicated a well-marked hyperplasia. No. 3 was normal in appearance.

In No. 2 the histological appearances were the same, but in this case the vesicles were larger and the cells lining them of a lower columnar type, while the colloid was rather more plentiful. The addition of alkalies in this experiment did not appear to influence the result to any extent.

In short, of 7 animals fed on bacterial cultures, 5 not only failed to exhibit any enlargement of the thyroid gland, but were found to show an actual diminution in the size of the organ. On the other hand, 4 of these 5 glands showed a marked hyperplasia.

Four other goats were given the salts of lime, magnesium, and soda for the same period of time as in the previous experiment. Two of these animals were killed. The thyroid glands were of about normal size. One of these on microscopical examination showed also some signs of hyperplasia.

These experiments may be summed up as follows. In animals which drank only water highly polluted by fæces for *periods up to 108 days there was a tendency on the part of the* thyroid to be larger than normal, and to exhibit on microscopical examination an increase in size of the vesicles, irregularity and thinning of their walls, and distension of the vesicles with colloid; in animals which were fed on cultures of bacteria for the same length of time there was a tendency on the part of the thyroid gland to be smaller than normal, while the histological appearances of the organ were those of an active hyperplasia, often very pronounced. I think it possible that future investigations will show that this apparent difference of result is nothing more than a different stage in the process of development of goitre.

Of the experiments with bacterial cultures the two most striking results are the marke[illegible] panying diminution in size of [illegible] in conformity with that produc[illegible] recently Farrant, as a result of the injection into animals of bacterial toxins; the diminution in size has been noted by other experimenters. Edmunds found in one of his dogs in which partial thyroidectomy had been performed that the remaining lobe, though it showed marked hyperplasia on microscopical examination, was macroscopically smaller than normal. Farrant also has concluded that the earliest stages of hyperplasia are associated with a diminution in size rather than an increase.

It remains only briefly to contrast these results with the histological changes apparent in the goitres artificially produced by Bircher and the Swiss Goitre Commission. Bircher was good enough to give me an opportunity of examining his specimens in his laboratory at Aarau. Undoubtedly pronounced changes had taken place in the glands, but these changes, in my opinion, generally bore a closer resemblance to those usual in exophthalmic goitre rather than those which we are accustomed to expect in simple goitre. Papillary outgrowths of the alveolar walls, for example, were very marked, while the distension of vesicles with imprisoned colloid was rarely noticeable. Branchings and ramifications of the alveoli were frequent. Moreover, in two sections I observed considerable blood effusion into the substance of the gland, a fact for which I can offer no explanation.

Professor Langhans very kindly gave me in Berne a manuscript report of the histological changes which he had observed in the rat goitres, produced by the Swiss Goitre Commission as a result of seven months' feeding on Lauterbrunnen water; at the same time I was permitted to see the specimens themselves. Briefly summarised, Langhans's observations show that there occurred no new formation of follicles, no branching of the alveoli, no characteristic nuclear changes. He has noted degenerative processes proportionate to the period of exposure to goitrous influences, desquamation of the epithelium lining the vesicles, and increase in volume of the protoplasm. The nucleus he found to lie near the base of the cell "very eccentrically placed," but he observed none of the alterations in structure described as not infrequent by Bircher. The alveoli were mostly filled with desquamated cells.

Histological research, therefore, has established the fact that marked changes occur, and has provided a description of several, but further experiments are necessary to establish the sequence of these changes, their interdependence on one another, and their bearing on the etiology of the disease.

CONCLUSION.

Gentlemen, I have concluded my argument. I have endeavoured to put as succinctly as possible the ascertained facts and the logical conclusions whereon is based my belief that the *essential cause of endemic goitre is a micro-organism* that finds its home in the intestines of man, and there creates a toxin which so influences the thyroid gland that it undergoes the enlargement which is the dominant symptom of the infection. In searching the existing literature on the subject I have endeavoured to omit no observation and to pass by no fact that appeared to merit attention, and I have been careful to set down as a fact within my personal knowledge nothing which I have not satisfied myself to be accurately true. Nor have I attempted to propound deductions without setting forth the premises from which I believe them to result.

I am, however, well aware of, and I have been at some pains to explain, the incompleteness of our present knowledge of the facts essential to a final determination of the etiology of goitre. As we have passed from stage to stage in our argument suggestions have arisen and side issues been aroused, each of which still offers a field of fruitful promise to the investigator, and any of which may bring to light fresh facts that may cause us eventually to modify the belief which, to my mind, the evidence at present before us justifies.

It is impossible to consider the parasitic thyroiditis described by Dr. Carlos Chagas, or the ingenious methods by which Dr. Bayon has produced enlargements of the thyroid gland, without being impressed with the possibility that in the near future we shall have to recognise several distinct causes of endemic thyroidomegaly—and therefore several distinct diseases of the thyroid gland—of which the endemic goitre we have been discussing is, in fact, but one. But of this at least there can be no doubt: to the disease which we have been investigating, with its widespread prevalence and appalling consequences, can be attributed no small fraction of the sum-total of human suffering, and incomplete as our knowledge of its causation is, we know enough to make it certain that good sanitation, cleanly houses, cleanly food, and the provision of water-supplies which are not fouled by the excreta of man and beast are measures which promise an extermination of the disease.

ADDENDUM (*Jan. 3rd, 1913*).

In a comprehensive paper on the etiology of endemic goitre, published within the last few days,[3] E. Bircher refers to an extensive series of experiments which have lately been carried out by Sazuki, under the direction of Professor Wilms, of Heidelberg, with a view to studying the action of organic poisons in the production of goitre.

These experiments, as quoted by Bircher, are as follows:—1. By feeding animals (rats?) on cooked rice mixed with rat fæces and by the subcutaneous injection of rat fæces *moderate-sized enlargements of the thyroid gland* of a diffuse form were produced. 2. Feeding with decayed fish. Negative result. The animals showed disturbances of growth and died rapidly. 3. Feeding with decayed meat. Negative result. 4. Feeding with calf's thymus. Negative result. 5. Subcutaneous injection of the dead body in small and large doses gave negative results. The animals (so treated) soon died. 6. Subcutaneous injections of tyrosin gave negative results. 7. Subcutaneous injections of acetonitrile yielded negative results. 8. Feeding with rat fæces mixed with iodide of potassium yielded negative results. 9. Feeding with rat fæces mixed with thyroidin yielded negative results.

Commenting on these results Bircher says: "These different experiments show that though the organic poisons are not capable of producing goitre, yet the feeding and subcutaneous injection of fæcal matter can lead to goitrous changes, as has already been shown by McCarrison; and, further, that iodine preparations, such as potassium iodide and thyroidin, are capable of exercising a restraining influence on the formation of goitre."

This confirmation of my experiments by Wilms and Sazuki lends further striking support to my contention that the excitant of the disease is resident in the intestinal tract.

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[3] Ergebnisse der Chirurgie und Orthopädie, Band v., Berlin, 1913.

THE BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—The next special post-graduate course in the Diagnosis and Treatment of Pulmonary Tuberculosis at this hospital will commence on March 3rd, and will continue for a fortnight. Each morning there will be demonstrations and practical work in the laboratory, and each afternoon there will be clinical demonstrations in the general and special out-patient departments and in the wards. In connexion with the course a series of public lectures will be given at 4.30 P.M., and on Friday, March 14th, there will be an expedition to the Frimley Sanatorium. The syllabus of the course, the list of lecturers, and other particulars, may be obtained on application to the Dean at the hospital.

A Clinical Lecture
ON
TUMOURS OF THE KIDNEY.

Delivered at the Cancer Hospital, Brompton, on Jan. 29th, 1913,

BY R. H. JOCELYN SWAN, M.S. LOND., F.R.C.S. ENG.,
SURGEON TO THE HOSPITAL.

GENTLEMEN,—In the series of lectures which are to be given at this hospital it is our object to make them as much a clinical demonstration as possible, and though we may of necessity refer to the work of others in each subject, we shall illustrate our remarks by reference to cases in the hospital as well as by showing numerous pathological specimens and microscopic sections prepared from them.

This afternoon I propose to speak on the subject of Tumours of the Kidney, under which title I wish to include any form of growth arising in the renal tissues, excluding any fluid or cystic swelling of the kidney, such as a hydronephrosis or pyonephrosis. For this purpose I have collected 12 cases, 10 of which have occurred in my own practice and the remaining 2 in that of my colleagues in the hospital. In addition I have two specimens which were found in the course of an autopsy.

VARIETIES OF RENAL GROWTHS.

There are several varieties of growths found in the kidney, and in recent years a great deal of pathological work has been carried out upon them. A very great deal has been written upon the subject, and several theories as to the origin of these tumours have been brought forward, so that much confusion has arisen as to their true nature. This is particularly true with regard to the most common form of malignant tumour of the kidney—namely, the hypernephroma; and I shall again refer to the discussion that has taken place when I deal with the pathology of this tumour. Of the growths which affect the kidney, a division must be drawn between those which arise in the renal parenchyma and those of the renal pelvis, and the best classification is that given by Garceau.[1]

A. Solid tumours of the renal parenchyma.
- *Malignant.*—(1) Hypernephroma; (2) carcinoma; (3) sarcoma.
- *Benign.*—(1) Adenoma, (2) angioma, (3) lipoma; (4) fibroma.
- *Embryonic tumours.*—(1) Dermoid; (2) rhabdomyoma; (3) mixed tumours.

B. Tumours of the renal pelvis.—(1) Papilloma; (2) villous-covered carcinoma; (3) epithelioma.

The hypernephromata are by far the most common form of malignant tumour of the kidney, occurring in from 75 to 80 per cent. of all renal tumours. The pathology of this tumour was first brought into prominence by Grawitz[2] in 1883, who described it as arising from the small masses of aberrant adrenal tissue which are frequently found in the cortical portion of the kidney. These tumours arise in the cortical portion of the kidney, forming rounded masses with a capsule formed of condensed renal tissue; they tend to spread towards the renal pelvis, which they ultimately invade and also may gain entrance into the renal vein or even the inferior vena cava. On section a hypernephroma varies considerably. It may be of firm consistence, but frequently shows areas of necrosis and softening, and most commonly some dark areas into which hæmorrhage has taken place. One marked feature which is present in almost all cases is the presence in the tumour of small areas of a fairly bright yellow colour. These changes are well shown in the different specimens which I have collected, hæmorrhage and a certain amount of necrosis being present in nearly all of them.

On microscopic section the growth exhibits a structure which reminds one, at first sight, of the normal suprarenal. The cells are arranged in palisade form, large, of polygonal shape, and with well-marked cell walls. The protoplasm is clear and contains highly refractile bodies, and is found to contain both fat and glycogen. It was the close resemblance of the cells of this tumour to those of the suprarenal capsule which led Grawitz to believe that hypernephromata arose from the aberrant suprarenal rests in the kidney; this view found many supporters, and much discussion arose as to whether the tumours should be classified as carcinoma or sarcoma. At the same time, it should be said, the suprarenal rest origin has not been accepted by all pathologists, and it has been recently held by Stoerk and by Shaw Dunn[3] that these tumours arise in the renal tissues, especially in cirrhotic kidneys, and are thus true renal carcinomata. Whilst so much uncertainty remains as to the nature of these tumours it is as well to adopt the name hypernephroma suggested by Lubarsch.[4]

In connexion with the origin of these tumours we have a specimen (Fig. 1) in our museum which was found by Dr. E. H. Kettle in the course of a post-mortem examination upon a case of epithelioma of the tongue. Embedded in the medullary portion of a cirrhotic kidney is a small yellow tumour of the size of a large pea, which shows on microscopic section the typical appearance of a Grawitzian tumour, a tumour so small that it had produced no symptoms during life, but which is of great pathological interest.

Hypernephroma is disseminated by direct extension or by metastatic deposit. If the growth reaches the renal vein emboli may find their way to the lungs, &c., and deposits are most frequently found in the lungs, the liver, or in the bones.

Primary carcinoma is a much more rare form of malignant tumour of the kidney than hypernephroma, and in this hospital we have only one specimen of it. Previously a large number of tumours were classified as carcinomata which, upon further examination, prove to be hypernephromata, so that the tables given in the various text-books are quite unreliable. Several well-authenticated cases of true carcinoma are recorded, but probably they do not amount to more than 2 per cent. of renal tumours. The growth appears rapidly to invade the renal pelvis and so gives rise to persistent hæmaturia. On microscopic section the growth shows similar alveolar arrangement to carcinoma elsewhere in the body.

Sarcoma of the kidney occurs as a primary tumour both in the round and spindle-celled variety. It may attack the kidney in late adult life, but is more commonly a tumour of early years—occurring in quite young children. We have one example here removed from a child aged 7 months by my colleague Mr. Howell Evans, which you see in this specimen is a greyish tumour occupying almost the whole kidney. The growth may commence in the capsule or in the tissues of the hilum, rapidly spreading and invading the kidney.

The *innocent tumours of the kidney* very rarely give rise to symptoms during life unless they attain a large size. Adenoma of a papillary or tubular form are frequently found as small cortical tumours of the kidney during a post-mortem examination. The chief interest of them lies in their relationship to carcinoma of the kidney which may arise in them.

Angioma of the kidney is a distinctly rare condition. Recently a form of angioma of the apex of a renal papilla, giving rise to renal hæmaturia, has been described by Hurry Fenwick, but a more rare condition in which a cavernous angioma existed in the kidney as a distinct tumour came under my care in November, 1911.

A young man, aged 19, previously quite well, was surprised to find [illegible] d blood without pain of any [illegible] in spite of complete rest and [illegible] lin under the supposition of [illegible] ler. When I saw him on the third day of the profuse hæmaturia he was blanched, and his pulse small and rapid. A recent specimen of urine was deeply stained with bright red blood and had clotted in the vessel. There was no pain over the suprapubic or renal areas and no other sy [illegible] On cystoscopy I found the bladder to be [illegible] blood was issuing from the left ureteric [illegible] rapidly exposed the left kidney, which [illegible] the outside, but which on section was found to contain a soft tumour of distinct cavernous looking tissue. The organ was removed, and on microscopic examination the tumour proved to be a cavernous angioma. (Fig. 2.)

The specimen has retained its colour admirably, and you will see that the tumour appears to consist of erectile tissue.

Lipomata and fibromata of the kidney are rare. Usually they are quite small, but cases are recorded in which large tumours were found. Clinically they are unimportant.

The *embryonic tumours of the kidney* are comparatively rare. There have been recorded only two cases of dermoid of the kidney (Paget [5] and Haeckel [6]), and some authorities deny the existence of rhabdomyomata occurring in the kidney.

The embryonic mixed tumours of the kidney are those which are composed of both epithelial and connective tissue elements and show a great complexity of structure. There may be striped or smooth muscle fibre, cartilage, bone, together with tubular or glandular epithelial structures. [illegible] rent extent in a tumour, [illegible] that it appears in one [illegible] carcinomatous. These tumours may grow very rapidly and attain a large size, and are apt to undergo myxomatous or degenerative changes. They arise in the substance of the kidney; they do not infiltrate in the same [illegible] to push aside the renal [illegible] organs. Metastases [illegible] first described these tumours as embryonic adeno-sarcomata, and looked upon them as derived from the inclusion in the kidney of elements of the Wolffian body. Wilms,[8] however, suggested that the various elements of a mixed tumour arose from islets of embryonic tissue, but so far there is no *uniformity of opinion as to their origin. The tumours are* found in early childhood, forming a swelling in the loin. They are apparently very malignant.

Of the *tumours of the renal pelvis* the papilloma is the most common. Albarran and Imbert [9] quote a series of 22 cases in which a papilloma commenced in the renal pelvis. The tumours may be multiple and may spread as small tumours along the course of the ureter. The villous-covered carcinoma may occur as a primary tumour or may be a malignant form of a simple papilloma. Macroscopically the growth appears as a papilloma, but the base is infiltrated and has all *the characteristics of carcinoma, spreading by direct continuity* and by metastases.

Epithelioma of the renal pelvis of the squamous-celled variety has been described, and has been thought by Hallé [10] to be secondary to calculous or some other form of pyelitis.

SYMPTOMS.

The symptoms of a renal growth vary to a certain extent with the nature of the tumour present. The hypernephroma is by far the most common form of growth in the kidney, and I shall first speak of the symptoms of this, and later point out the differences in them in the other forms of renal growth.

The three prominent symptoms of hypernephroma are hæmaturia, pain, and the presence of a renal tumour. *Hæmaturia* is perhaps the most important symptom, and immediately attracts the patient's attention. It is frequently the first symptom noticed, and in my own cases occurred as the initial symptom in six out of nine cases. The bleeding commences suddenly without pain, and the patient is surprised to find on micturating that the urine is loaded with blood. Usually the bleeding is fairly profuse and lasts *for several days*, when it may entirely disappear for some weeks, to recur again in exactly the same manner. Bleeding may occur irrespective of any injury or undue exertion, but in one of my cases it distinctly followed any train journey, and in another was produced on several occasions after a long walk. In some cases the urine may contain clots, and I would ask you in all cases in which clots are present to examine them most carefully, especially as to their shape. The best way to do this is to float them *in a large basin of* water, *pouring off* the coloured water and washing the clots until they can be easily seen. If I find *any clots of pyramidal shape*, indicating their *formation in* the renal pelvis, or of a long, round, worm-like appearance, with decolourised ends, from the formation in the ureter, I have little doubt that the bleeding is renal in origin.

Occasionally slight hæmaturia may be present, lasting more or less continuous for some weeks, but in my experience hæmaturia is more frequently of the nature of a recurring profuse hæmorrhage. In the intervals between the bleeding the urine might be quite clear and free from albumin.

Pain in hypernephroma is generally of a dull, aching character referred to the loin in the renal angle—that is, the angle formed by the last rib and the outer border of the erector spinæ muscle—or may extend to the abdomen, iliac fossa, or chest. This aching may precede the onset of hæmaturia, but may occasionally be very severe, similar to the renal colic of a calculus. This severe pain is usually indicative of the passage of a blood-clot down the ureter, when hæmaturia will follow an attack of acute pain, or the attack may be unaccompanied by any hæmaturia. In two of my cases acute pain in the loin described as of a "tearing" nature was present without any accompanying hæmaturia on more than one occasion, and I suspect that this was due to the occurrence of hæmorrhage into the substance of the growth and the resulting increase of intrarenal pressure. It is but rarely that any pain is present on micturition, but occasionally the presence of blood-clot in the bladder may give rise to pain and increased frequency of micturition.

A *tumour* in the loin may be large enough to be noticeable to the patient or may be found upon a clinical examination. In some cases the tumour retains the shape of the kidney, or it may be felt to be nodular or irregular. The lumbar region should be examined bimanually during fairly deep inspiration in the dorsal posture, and if no enlargement of the kidney *is felt* examination should be made in the knee-elbow position, when it may be more easily felt. Occasionally a definite, localised enlargement of the kidney can be felt as in one of my cases (Fig. 3), when a mass *could be felt projecting from the ventral aspect of the kidney* as large as a cricket-ball. In some cases, when the enlargement chiefly affects the upper pole, it may be hidden by the costal arch, when the lower pole may be palpable, apparently low placed but not enlarged.

In one case of a large hypernephroma I was much impressed by a symptom which at the time was new to me, but which I have subsequently seen in another case of renal enlargement—namely, a calculous pyonephrosis. In the case of this large hypernephroma of the right kidney the tumour could not be felt owing to the fact that the anterior *border of the liver descended to a hand's breadth below the* costal margin; dulness was continuous upwards to the level of the fifth rib in the mammary line and to the fourth rib in the mid-axillary line, and caused much doubt as to the nature of the trouble. Owing to the lumbar pain and the occurrence of attacks of profuse hæmaturia, I explored the kidney and found this large growth, which had extended upwards and in its increase had *pushed* the liver forwards and downwards, rotating it upon a horizontal axis. To remove the kidney I had to do a trans- [illegible] growth in the base of the right lung. Here the "dislocation" of the liver prevented even such a large growth from being palpated.

The remaining symptoms of the disease are due in the most part to pressure of the tumour or to metastases. Varicocele is occasionally present, as pointed out by Sir Henry Morris, and is especially significant if it is present in the right side. Dyspnœa may be due to pulmonary invasion, *or a tumour may appear in some part of the skeleton.*

DIFFERENCE IN THE SYMPTOMS BETWEEN HYPERNEPHROMA AND OTHER TUMOURS OF THE KIDNEY.

There are a few points of difference in the symptoms of hypernephroma and other tumours of the kidney which may help in arriving at a diagnosis of the nature of the growth.

Hypernephroma is most common between the ages of 50 and 70, and is of comparatively slow growth; sarcoma is more common in childhood, and forms a rapidly growing tumour with early cachexia. Carcinoma is a disease of later life, gives rise to more pain, and usually to constant hæmaturia; whereas in sarcoma hæmaturia may be absent, and in [illegible] ular [illegible] the [illegible] eous [illegible] than hypernephroma, so that the resulting tumour of the kidney may be more fixed in position.

Embryonic tumours are most common in early life, and usually form a rapidly growing tumour of the kidney. Pain [illegible] ed feature of these [illegible] by pressure upon [illegible] even ascites with [illegible] veins, jaundice, or dyspnœa, may be present.

With tumours of the renal pelvis, hæmaturia is the marked symptom. It may occur in profuse attacks, often painless or giving rise to acute pain if clots are passed down the ureter. The symptoms may be spread over a number of years in the papillomatous growth. The renal tumour may vary in size if the ureter becomes blocked by growth or by blood clot, the increase in size being accompanied by an increase in pain in the affected side and by the absence of blood in the urine. It is of importance to recognise in these cases that a cystoscopic examination may reveal small secondary villous tufts in the bladder in immediate vicinity to the ureteric orifice.

THE DIAGNOSIS OF A TUMOUR IN THE KIDNEY.

In arriving at a diagnosis it must be ascertained (1) that the hæmaturia is of renal origin; and (2) that the tumour in the loin is an enlargement of the kidney.

1. If when the case presents itself there is a combination of renal pain, tumour, and hæmaturia, especially if blood clots of characteristic renal or ureteric shape are present in the urine, there can be little doubt that the bleeding proceeds from the kidney, but frequently a diagnosis has to be made from a single symptom. Constant and even profuse hæmaturia, painless in character, and uninfluenced by exertion, may be caused by both renal and vesical lesions, and I cannot better exemplify this than by mentioning cases in which error has been made.

The case of angioma of the kidney was thought to be one of villous tumour of the bladder, and so also was one of my cases of rapidly growing hypernephroma by well-known physicians, whilst another case was sent to me by the late Dr. J. H. Bryant as a case of carcinoma of the kidney on account of the intermittent profuse hæmaturia with renal enlargement, which I found on cystoscopic examination was in reality a hydronephrosis caused by a villous tumour of the bladder which caused obstruction to the flow of urine from the ureteric orifice. Frequently with vesical bleeding other symptoms, such as increased frequency of micturition or pain during or following the act, are present, but these may be due also to the presence of blood-clot in the bladder, and I cannot urge too strongly the necessity of a thorough cystoscopic examination in these cases. Even if no lesion is found in the bladder, and there is no change in the ureteric orifice suggestive of renal tuberculosis or ureteric calculus, this elimination is useful, whilst frequently blood can be seen to be emitted from one ureteric orifice. It has been urged that a cystoscopic examination is futile in cases of hæmaturia, but this is quite erroneous, and with the present-day modern irrigating cystoscopes sufficient clearness of the medium can usually be obtained to see a blood-stained efflux from a ureteric orifice and will determine not only that the bleeding is renal in origin but will show the side affected.

Renal hæmaturia may be present in other diseases of the kidney than growth. In renal calculus the hæmaturia is usually slight and often influenced by exertion. There is more pain experienced with calculus, and in the urine pus or urinary crystals may be found. Further, a skiagraphic examination will, under favourable conditions, show a fairly defined shadow in contrast to the ill-defined blurring of the renal space in growth.

In renal tuberculosis hæmaturia may be present, but the diagnosis is usually easy. The age of the patient in tuberculosis, usually of early adult life, the increased frequency of micturition, and the presence of pus and tubercle bacilli in the urine, as well as the enlargement of the ureter felt per vaginam or per rectum, and the marked changes in the cystoscopic appearance of the ureteric orifice, are all points in favour of renal tuberculosis.

A simple hydronephrosis may give rise to hæmaturia and may present some difficulty in diagnosis. The varying size of a renal tumour may suggest a hydronephrosis, but may be due to the distension of the kidney with blood in a renal growth; in hydronephrosis the renal swelling is more regular on palpation, is often of long standing, and may give the sensation of fluctuation or thrill. Frequently some cause for the hydronephrosis can be found.

2. In some cases of renal growth hæmaturia may be absent and the patient is seen complaining of a tumour in the loin and pain. In these cases it is necessary to determine that the tumour is really renal in origin and to differentiate it from other tumours in the same situation.

A tumour of the kidney can be felt to descend from under the costal margin on inspiration, can be grasped bimanually, and pushed forward by the posterior hand. It usually retains the shape of the kidney, rounded in front, and with no sharp edge or notch; the colon is often placed in front of the renal tumour, and the area of resonance of the colon in the loin is lost. The swellings which are most likely to be confused with a renal tumour are tumours of the liver or gall-bladder on the right side or of the spleen on the left, an ovarian tumour with a long pedicle, or a malignant growth of the colon. It will suffice to mention these here, as the points in favour of each will be readily recalled.

Finally, it remains to determine the nature of the lesion of the kidney, if the tumour of the loin be diagnosed as of renal origin. A renal enlargement may be due to hydro- or pyonephrosis, to a cystic swelling or to polycystic disease, to tuberculosis, growth, or to hypertrophy of a single kidney, from the absence, destruction, or removal of the other. Hydronephrosis, tuberculosis, and calculous pyonephrosis have already been discussed, but pyocystic disease may give rise to a renal tumour as well as to hæmaturia. In polycystic disease both kidneys are usually enlarged and may reach a very large size. The urine is pale, of low specific gravity, and usually contains albumin. The disease occurs in any age, but there is frequently a considerable atheromatous change in the arteries, and retinal changes may be present. In one case under my care, in a woman aged 65, the right kidney was enlarged to double the size of the left, there was intermittent hæmaturia, but in the intervals the urine was only of specific gravity 1004–1006.

A single kidney is unlikely to be confounded with a renal growth, as, except for slight enlargement, it causes no other symptom unless diseased. A cystoscopic examination or urinary segregation would show that only one kidney was present.

TREATMENT OF RENAL GROWTH.

Before any radical measure can be undertaken to remove a renal growth thorough examination must be conducted to ascertain (1) that no metastases are present and (2) that the other kidney is present and functionally active.

A careful examination should be made of the liver, the thorax, and the osseous system for any sign of metastatic growth and of the abdomen or lower extremities for any sign of obstruction to the large venous trunks, which, if present, would contra-indicate any operation for removal of the growth. Fixation of the renal tumour in the loin would also point to the spread of the disease outside the renal capsule to the perinephric tissues.

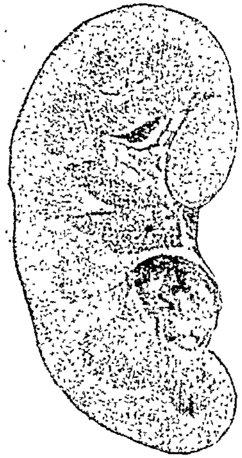
The existence of the other kidney may be proved if urine is seen to be emitted from the ureteric orifice of the presumably unaffected side on cystoscopic examination, but this observation alone gives no indication of the functional activity of the organ. This may be done by separating the urine of the two sides by a Luys's segregator or, better, by passing the ureteric catheter into the ureter of the side to be estimated and collecting the urine from that side separately.

In my own practice I not only estimate the urea content of the urine collected, but I make use of one of the colour reagents to test the renal activity. After the catheter has been in position for about half an hour and is found to be acting satisfactorily, I inject 15 minims of a 5 per cent. solution of methylene blue into the gluteal muscles and watch for the first sign of colouration in the urine flowing from the catheter. If the renal function is unimpaired a greenish tint will be found in the urine in 30 minutes, increasing to an emerald green in an hour or an hour and a half after the injection was given. Even in 15–20 minutes after the injection a colourless product may be found in the urine, which may be converted into green by boiling for a few minutes with acetic acid.

If the urea percentage is good and methylene blue is shown present in the urine within 30 minutes there is strong evidence that the remaining kidney is working satisfactorily. The same colour reaction may be carried out with indigo-carmine or the renal activity tested by noting the time of appearance of sugar in the urine after an injection of phloridzin.

If these tests are satisfactory and there are no metastases the only treatment that can hold out any prospect of cure is the removal of the affected kidney. A small tumour enclosed in its capsule of compressed renal tissue which may have given rise to hæmaturia is the most favourable one

FIG. 2.



Cavernous angioma of the kidney.

FIG. 1.

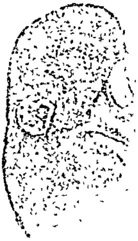
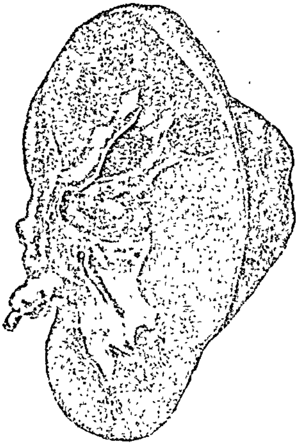
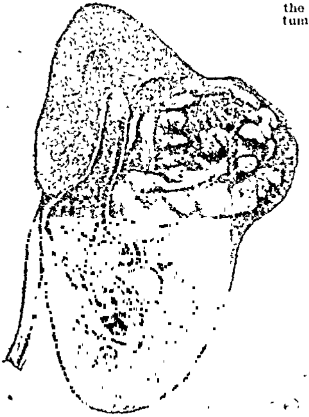


FIG. 3.



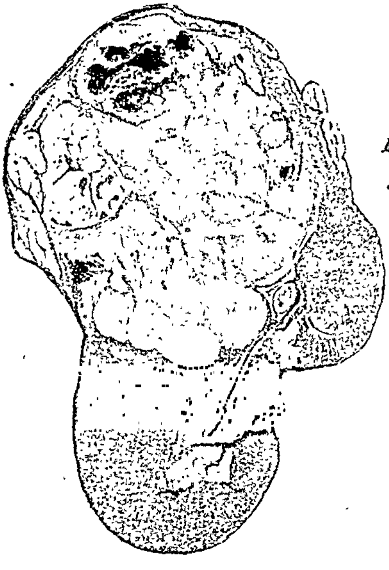
Section of a large hypernephroma of the ventral aspect of the kidney, to show the invasion of the renal pelvis by the tumour.

FIG. 4.



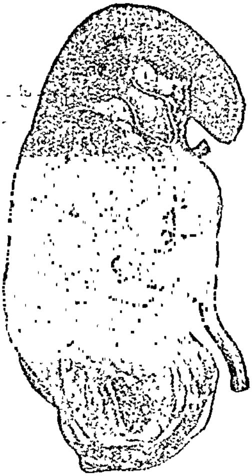
An early hypernephroma of the kidney. Renal pelvis filled with blood-clot.

FIG. 5.



An advanced and rapidly growing hypernephroma of the upper pole of the kidney

FIG. 6.



Papillary carcinoma of the lower pole of the kidney that the reddish areas seen in the marrow cavities of the bones, which at the post-mortem examination were thought to indicate a hyperplasia of the red bone marrow, were found on microscopical examination to be in large measure due to hæmorrhages.

Liver and kidneys.—These showed nothing of note beyond slight venous congestion and cloudy swelling.

Spleen.—The spleen showed, in addition to the ordinary splenic elements, numerous nucleated red cells, both normoblastic and megaloblastic. Here and there normoblasts were seen lying in apposition, with the nuclei close together, apparently having been recently formed by division. Some of the nuclei showed irregularity of their margins. The "blue-iron" reaction in liver, spleen, and kidneys was negative.

Although this subject receives little or no attention in the text-books, the condition is perhaps not very uncommon, and probably passes unrecognised in the majority of cases. In the paper already published a short *résumé* of the recorded cases is given. Since then Ward[2] has given details of what may have been another case, but unfortunately it was not verified by post-mortem examination. The patient was a woman who had a rapid recurrence of an epithelioma after removal of the left breast. There was a large mass on the sternum giving rise to considerable pain, and there were small nodules in connexion with the second and third ribs. Enlarged glands were present in the right axilla. The red corpuscles numbered 4,760,000 per cubic millimetre and the hæmoglobin was 65 per cent. The colour index was 0·68 and the leucocytes numbered 10,800 per cubic millimetre. There were 382 normoblasts and 104 megaloblasts per cubic millimetre. All the erythroblasts were polychromatophile, and some showed basophile granulation (Giemsa). A differential count of the leucocytes gave 61 per cent. polymorphonucleated neutrophiles, eosinophiles 0·6 per cent., small monomorphs 31·2 per cent., large monomorphs 4·8 per cent., and myelocytes 2·4 per cent. A second case was published in Norway by Professor Peter F. Holst,[3] but we have been unable to obtain this paper.

It would appear from a study of the few cases which have been fully investigated that in most instances the blood shows a strong myeloid reaction, numerous erythroblasts and myelocytes being found. Probably most of the cases in which carcinoma simulated pernicious anæmia closely were cases of metastases in the bone marrow. When anæmia occurs in cancer it is usually of the ordinary secondary type, although erythroblasts are said to be a little more frequent (Da Costa[4]), and a relative lymphocytosis is common (Price Jones[5]). But high colour index, megalocytosis, myelocytosis, and numerous erythroblasts do not occur. Since the publication of the first case one of us (A.W.H.) has investigated this point in 24 cases of malignant disease (chiefly of stomach, pancreas, or bowel), and in no case found it controverted.

It seems to us that a diagnosis of carcinomatous metastases in the bone marrow can be fairly easily made. Most reliance is to be placed on the bone pains and the condition of the blood. In both our two cases the bone pains were very severe, and tenderness was marked. With regard to the blood the points to be laid stress on are high colour index, megalocytosis, and the presence of erythroblasts and myelocytes in considerable numbers. Leucocytosis is common, but seems to be variable. In the case under consideration the number of erythroblasts and myelocytes was small, but the destruction of marrow by the cancer was very complete, and possibly at an earlier stage of the disease these cells may have been present in larger numbers. The leucocyte count was low at first, and this with a moderate relative lymphocytosis made the resemblance to pernicious anæmia closer.

Parmentier and Chabrol[6] lay considerable stress on enlargement of the spleen as an aid to diagnosis, but this was not present in either of our cases. The spleen could not be felt during life, and was not enlarged at the necropsy.

It is a notable point that in many of the published cases the cancer has been of a benign nature locally—pyloric, small, and circumscribed. In the present case, although the tumour extended over a fairly wide area, the great amount of fibrosis in it suggests that its progress was slow. Also there was little in the way of spread to the glands and no involvement of the liver, despite the widely scattered metastases in the bones.

Contrasting the histological characters of the tumours in this case with those of the former, it is interesting to note that in both overgrowth of fibrous tissue was a conspicuous feature in the primary and secondary growths. In the case first published colloid degeneration was observed in many of the cancer cells in the primary tumour, but not in those of secondary deposits. In the present case no colloid degeneration was seen in the primary growth, but a few of the cells in some of the metastatic tumours showed it.

Much interesting speculation may be indulged in as to the causation of the profound anæmia. Does it depend on defective hæmogenesis or on excessive hæmolysis? The depraved nutrition of the patient plays a large part, and in many cases the effect of repeated small hæmorrhages must be considerable. In the present case there was no gross hæmorrhage, and occult blood was absent from the stools. No evidence of hæmolysis was obtainable. The urine contained no excess of urobilin, and the liver, spleen, and kidney showed no "iron-blue" reaction. But the red bone marrow was practically destroyed by cancer, so that defective hæmogenesis must have played a large part. In what manner the cancer tissue acts upon the bone marrow it is difficult to say. The metastatic growths or their products may at first stimulate the marrow, and later on destroy and replace it. Upon such an assumption the previously published case represented the earlier stage in which the marrow was stimulated, and showed a strong myeloid reaction, while in the present case the extensive destruction of marrow prevented the reaction. The presence of nucleated red cells in the spleen, many of them showing mitosis, is exceedingly interesting, and may be considered as an attempt on the part of the spleen to take up the rôle of blood formation.

In any case of grave anæmia the presence of pains and tenderness of the bones should always arouse suspicion of carcinoma of the bone marrow. If the blood on examination shows characters suggestive of pernicious anæmia, but with an excess of erythroblasts and myelocytes, the diagnosis of metastases in the bone marrow is highly probable. The present case seems to show that even in the absence of evidence of myeloid reaction, if there be any suspicion of carcinoma of the stomach, high grade anæmia, with high colour index and megalocytosis, taken along with the presence of bone pains, renders the diagnosis of bone metastases almost certain.

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[2] THE LANCET, June 18th, 1910, p. 1688.

[3] Norsk Magazi [illegible]

[4] Clinical [illegible]

[5] Archives of the Middlesex [illegible] from the Cancer Research Laboratories, vol. xxiii., p. 73.

[6] *Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris*, August 5th, 1909.

THE WOMEN'S IMPERIAL HEALTH ASSOCIATION.—The annual meeting of this association was held on Jan. 29th at 7, Hanover-square, London, W., the President, Muriel Viscountess Helmsley, being in the chair. The association had a year of good work to report. Schools for mothers have been started in Lambeth, North Kensington, and Tottenham, and a juvenile health crusade is enlisting children all over the kingdom as soldiers to fight the battle against disease. The antituberculosis play produced at the Court Theatre in November was found to have provoked wide interest, as many requests had been received that it might be performed in the provinces. The difficulty here was the expense involved, but arrangements had been made, it was said, to have a cinematograph film taken which would enable the lessons of the play to reach a much larger audience. The association has continued the caravan tours, and this year Sussex was visited and certain places in Kent and Surrey. The London Parks Caravan worked during the summer at Battersea Park, Clapham Common, Wandsworth Common, and Tooting Common; the London County Council gives special permission for the van to take up its stand in the parks, when a lecture is given which is illustrated by lantern slides and cinematograph pictures thrown on a daylight screen which is hung on the side of the van. During the year 310 lectures have been delivered under the auspices of the association, many of them illustrated by lantern slides and cinematograph films. The treasurer's report was satisfactory, and he was able to point out that economy had been effected in several directions without any decrease in efficiency.

SOME OBSERVATIONS ON A SERIES OF 78 CASES OF STREPTOTHRIX INFECTION.[1]

BY ALEXANDER G R FOULERTON, F R C S ENG,

DIRECTOR OF THE BACTERIOLOGICAL AND CLINICAL PATHOLOGY LABORATORIES AT THE MIDDLESEX HOSPITAL LECTURER ON BACTERIOLOGY TO THE MIDDLESEX HOSPITAL MEDICAL SCHOOL.

BY way of contribution to a discussion upon streptothrix infections I thought that it would be worth while to refer to some points in connexion with a series of cases which have been investigated in my laboratories at the Middlesex Hospital, and in which the presence of the causative parasite has been demonstrated positively by laboratory methods

In the Milroy lectures On the Streptotrichoses and Tuberculosis in February, 1910,[2] I was able to refer to 53 cases of the kind which had been investigated at the Middlesex Hospital during the preceding ten years During the last three years 25 additional cases have been examined—13 cases of primary infection of parts about the mouth and neck, 6 cases of primary infection of the appendix, *5 cases of pulmonary infection and 1 case of cystitis* The series, therefore, now includes 78 cases A very large majority of these have occurred in the routine of hospital work, and material from the remainder has come from cases outside in which I have been consulted If the generally prevailing idea as to the comparative rarity of streptothrix infections were correct, this series of 78 cases investigated in one laboratory during a period of 13 years might seem exceptional, since Acland, who in the year 1884 identified the first case of human actinomycosis recorded in this country, was able to collect only 109 British cases published during the 23 years 1884–1906 But it is certain that, excluding for the time all cases diagnosed as cases of tuberculosis cases of streptotrichosis are much more common than the number of recorded cases would lead one to believe And I am convinced that my own series of 78 cases, observed during 13 years, understates very seriously the frequency of occurrence of cases of streptotrichosis in ordinary hospital practice The series includes only cases in which either a streptothrix was obtained in culture on artificial media, or in which typical branching mycelium was identified in stained specimens of material Had cases in which there were found what were almost certainly rod forms and spores of a streptothrix been included, the list would have been considerably longer The number of cases of appendix infection, for instance, would have been increased largely The question of the microscopic demonstration of streptotrichea will be referred to later on Meanwhile, I may deal with the question as to whether there is otherwise any reason for believing that our results at the Middlesex Hospital are in any way exceptional, in the sense that they do not represent the average of hospital practice

In order to test the value of any special series of cases the best method is that of comparison of the individual result with the collective results of others If the outcome of individual experience coincides nearly with the outcome of collective experience, then the individual experience may be taken fairly as representing the normal average I will therefore collate the Middlesex series of cases with series of cases collected elsewhere by the following tests (1) as to age incidence, (2) as to sex incidence, (3) as to the influence of occupation on incidence, and (4) as to the more frequent sites of primary infection

In the matter of sex incidence the Middlesex series of 78 cases may be compared with one of 405 cases collected by Leith and with Acland s series of 109 cases in which sex is stated in 101[3] It will be seen that the figures of the Middlesex series coincide nearly exactly with Acland s, whilst Leith's figures show a somewhat higher prevalence amongst males

	Number of cases		Sex percentage	
	M	F	M	F
Leith (collected cases)	295	110	72 9	27 1
Acland " "	65	36	65 0	35 0
Middlesex Hospital	51	27	65 4	34 6

In the matter of age incidence the Middlesex cases correspond closely with those of Acland s series The age is stated in 84 of the latter, and was ascertained in 70 of the former

—	Total	Under 15 years	15 years and under 25	25 years and under 35	35 years and under 45	45 years and under 55	55 years and upwards
Acland s collected cases	84	12	24	25	9	7	7
Middlesex cases	70	6	23	19	9	11	2

In Acland s series 49 of the cases, or 58 3 per cent, occurred between the ages 15 and 35 years, in the Middlesex series 42 of the cases or 60 per cent, occurred within the *same age period*

The influence of occupation on the incidence of infection is an interesting subject for consideration in connexion with the pathology of streptotrichosis From the first it has been recognised that infection may be carried to man and lower animals by means of straw and grain That fact was established by clinical observation, it was afterwards found that, when not living as parasites on man and other animals, the streptotrichea are [illegible] the soil, or parasites c [illegible] it is well known that [illegible] e in many ways Koch's *B tuberculosis* occur as natural parasites of grasses and other forms of vegetable life Acland remarks that *"in 17 of the British cases the individual* infected had either been in the habit of chewing straws, ears of corn &c, or had been engaged in agricultural pursuits" An analysis of the histories of the Middlesex series of cases is significant of a probable frequency of transmission of infection to man by various vegetable products Of the 78 individuals included in the series 20 were either occupied with house work or were "unoccupied," and in the case of 18 others the occupation, if any, was not ascertained Of the remaining 40, 2 belonged to the professional class and 38 to the working classes Of the first two one was a medical practitioner, and the other was a woman medical student who died as the result of appendix infection some months after *taking a long summer holiday in the* country During her stay in the country the patient passed every day through a cornfield, and was in the habit of picking grains and chewing them

Of the 38 patients of the working classes, no fewer than 24 were engaged in occupations which brought them into close contact with vegetable products of one kind or another The series includes Coachmen and stablemen, 7, gardeners, 3, bakers, 2 foreman of timber yard, 1, carpenter, 1, greengrocer, 1, dairymaid, 1, cellarman, 1, working tailor or tailoress, 7

The group of 7 working tailors or tailoresses (the latter including 2 dressmakers) is an interesting one in this particular connexion, it *includes 2 male and 5 female patients* who would have been in the habit of constantly passing cotton between their lips Of these the 2 tailors had each a submaxillary abscess, the 3 tailoresses suffered respectively from pulmonary streptotrichosis, acute parotid abscess, and a submaxillary abscess, 1 dressmaker had a submaxillary abscess, and the other died with suppurative thrombosis of the superior mesenteric, splenic and portal veins resulting from appendix infection Of the remaining 14 patients of the working classes one was a young man who lodged in a room over a stable, and another was a working blacksmith and farrier whose occupation would bring him into close contact with horses

Comparison as to site of primary infection in the series of Middlesex cases with that in series of cases collected elsewhere is complicated somewhat except for the pulmonary cases by the fact that the former series comprises mostly cases

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[1] Being a paper read at a meeting of the Surgical Section of the Royal Society of Medicine on Jan 14th 1913

[2] THE LANCET Feb 26th (p 551) and March 5th (p 626) and 19th (p 769) 1910

[3] I have to express my thanks to Dr Acland who has very kindly provided me with the details of the *109* collected British cases which are referred to in his monograph on Actinomycosis in Allbutt and Rolleston s System of Medicine vol ii Part 1 1906 Dr Acland wishes the full share of Dr P S Hichens of Northampton in the work of compilation of the series to be acknowledged

cases an exact diagnosis on clinical evidence is impossible. After one has excepted cases in which the occurrence of an abscess about the mouth raises suspicion of a possible streptotrichial infection, and advanced cases in which there has been a progressive infection of the subcutaneous tissue with characteristic appearances on the surface, there are no means for the differentiation clinically of streptotrichosis from many other kinds of infection. In pulmonary infections the clinical symptoms and signs are those of chronic phthisis; and it is only the occasional perforation of an intercostal space, with possibly subcutaneous extension of the infection, which may help in differentiating a case from one of pulmonary infection by Koch's parasite. In the latter infection, however, perforation of the chest wall is probably of extremely rare occurrence. And it may be added that in only one of the 14 cases of pulmonary streptotrichosis examined at the hospital was there any suggestion that the disease was other than an ordinary tubercular phthisis, until suspicion was raised by failure to find typical "tubercle bacilli" in the sputum, or until typical mycelial forms of a non-acid-fast streptothrix had been identified in the sputum. Equally, a diagnosis by clinical methods of the specific kind of infection is impossible in acute streptotrichial infection of the appendix, or in any case unless there has been extension to the subcutaneous tissue. In the case of mouth infections, whilst there is nothing characteristic about the local abscesses which form in the cheek or neck, the situation of the swelling, and sometimes the occupation of the patient, may suggest a diagnosis.

And whilst clinical diagnosis as to the special kind of infection is impossible in the majority of cases of streptotrichosis, the difficulties in the way of the positive identification of the parasite by laboratory methods are frequently considerable. These difficulties arise from two sources: in the first place there is the extreme difficulty of obtaining growth of many parasites of this class on artificial media, and in the second place there is the difficulty arising out of the varying morphology of these species of moulds at different phases of their life-cycle. It is now well-recognised that the mycelial, or "ray fungus" form, represents only one of the three forms under which these parasites occur; and this typical mycelium, and the mycelium when in the earlier stages of "fragmentation" it is breaking up into "rod forms," represent the only stage at which the parasite can be recognised positively by microscopic examination. At a later stage of development, when fragmentation of the mycelium is complete, and when sporulation has occurred, the picture is no longer that of a "ray fungus"—all that can be seen in a stained film is a collection of somewhat irregular "bacillary" forms, and spherical spores which exactly resemble the common pus cocci; and both forms stain deeply with Gram's method. The difficulty in practice may be illustrated by reference to what is often found on the examination of the exudation in cases of appendicitis. A film stained by Gram's method shows a dense collection of deeply stained spherical and rod forms, together with, or without, bacillary forms which do not stain by Gram's method and which probably prove on culture to be *B. coli communis*. But in a quite large proportion of such cases growth of either of the Gram-stained organisms cannot be obtained. This failure to obtain growth is, in itself, a reason for suspecting that the spherical forms do not represent cocci, since none of the known Gram-staining pathogenic cocci are difficult of growth on artificial media. Suspicion will be increased by the presence of largish masses of minute Gram-staining particles, which probably represent the débris of degenerated masses of mycelium. But these appearances merely give rise to suspicion; positive identification such as is necessary for statistical purposes is impossible unless definite, branched, mycelial filaments which stain by Gram's method are found, or unless the identity of the parasite is established by culture. And it is for this reason that I believe that cases of infection by streptotricheæ are very frequently overlooked; and this is why it appears probable that our own statistics at the Middlesex Hospital understate the frequency of occurrence of streptotrichoses.

In the case of the acid-fast species the difficulty, without successful culture, is still greater, since their appearance as they occur in morbid material may be identical with that of either branching or plain rod forms of the variety of strains, or species, recognised under the name of *B. tuberculosis*—a difficulty which is readily explainable if it is true that what is ordinarily recognised in clinical practice as tuberculosis includes, in fact, one or more specific varieties of streptotrichosis. The difficulty, and in this particular case its solution, may be illustrated by a comparison of one well-defined species, *Streptothrix eppingeri*, with the common strain of Koch's bacillus. The lesions, those of a grey miliary tuberculosis, produced by either may be identical, both to the naked eye and histologically under microscopic examination. Both micro-organisms stain by Gram's method; both acquire acid-fast staining properties with age, but *B. tuberculosis* earlier and more extensively than the other. But the growth of Eppinger's streptothrix on artificial media is much more rapid than that of the tubercle bacillus, and is of quite different appearance; moreover, its pathogenicity for the rabbit is very much more active—death, with a widespread peritoneal tuberculosis, following within a few days of an intraperitoneal injection.

A NOTE ON REMISSION IN A CASE OF EPILEPSY.

BY D. W. CARMALT JONES, M.A., M.D. OXON.,
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A GIRL, aged 4 years, attended Westminster Hospital i April, 1910, for epileptic fits, of which she had had three i ten days and had bitten her tongue. The maternal grandfather had had senile fits and had been intemperate i alcohol, but there was no other family history of nervou disease. The child had had no former attacks and no convulsions in babyhood; the only previous illnesses had bee scarlet fever and chicken-pox, both shortly before the onse of fits. No abnormalities were found in the nervous system and the child was not degenerate in type.

In May, 1910, attacks of petit mal developed, and th child became "dazed" for long periods together. She wa treated with potassium bromide in the routine manner, an in the subsequent months fits were recorded as follows 1910.—July: Frequent minor fits. August: Five majo fits; also minor fits. September: Four major fits; mino fits. October: One major fit; constant minor fit November: Three major fits in sleep; very frequent mino fits. December: No major fit; minor fits very frequent 1911.—January: No major fit; no minor fit for four day (the longest period of freedom since the onset); minor fit on other days. February: Three major fits; frequent mino fits.

In March, 1911, the child had pneumonia and was ill fo eight weeks, and, as often happens in acute infections i epileptics, during this time the fits were in abeyance. Ther was some recurrence when the pneumonia was over, bu after convalescence was established the fits complete ceased, and for the following year during which she wa under observation there was no recurrence.

The point of interest in the case is this cessation of fit after pneumonia, which appears to be an uncommon event for the better known English and American writers o epilepsy make no mention of recovery following acut disease. The cessation of fits under these circumstanc raises some interesting points. It occasionally happens tha a chronic disease is apparently cured by an acute one. Th writer is aware of a case of chronic tropical dysentery o some years' standing in a retired officer of the India Medical Service which abruptly ceased after an attack c pneumonia; further, it is well known that trachoma i sometimes cured after erysipelas, and sarcomata have bee observed to shrink after the same infection.

Attempts, sometimes successful, have been made to tur these observations to practical account. The older tex books on ophthalmology mention the deliberate infection c the conjunctiva with pus in the treatment of trachoma, an inoculation with jequirity or its toxin is still occasionall practised. Coley's fluid is a preparation of streptococc and other bacterial toxins used in the treatment of sarcomat If such recoveries, whether natural or induced, are mo than coincidences the facts are exceedingly interestin since they imply that immunity to one infection has arise out of recovery from another, an occurrence of which the accepted theories of immunity offer no explanation

Epilepsy occurs in two types of individuals—the degenerate type and the type otherwise physically normal The former have various stigmata, such as arched palates and simian hands, and the latter are not distinguishable anatomically from healthy persons The degenerate type are always to be regarded as potential epileptics, and any strain may precipitate the attacks, such as physical stress as in campaigning, or acute illnesses Attacks of the exanthemata often immediately precede the onset of fits in persons of this type Also, in epileptics of non degenerate type an attack of one of the acute fevers often appears to be the exciting cause of fits, and in the case under consideration the fits came on after scarlet fever

These cases are not strictly comparable with the former It seems probable, and many neurologists are of opinion, that such fits are due to the scars left by an encephalitis If that is so, the fits following the exanthemata in non degenerate persons are due to an infective condition, and the recovery in this case after another acute disease suggests that the fits may be due less to scars than to chronic infection If a symptom such as epilepsy occurs in a person of normal development after an infective disease, it is a reasonable inference that the fits are infective or post infective in origin ; and if as a consequence of a second acute disease the symptom disappears, some support is given to the probability of its infective nature

This case is of interest as an instance of an unusual event in an epileptic's history, as being suggestive of the infective nature of some kinds of epilepsy, and as being a possible instance of an obscure process of immunity

Wimpole-street, W

A CASE OF OSTEOMALACIA

BY SARAH GRAY, F R C S IREL ,

SURGEON TO NOTTINGHAM HOSPITAL FOR WOMEN

OSTEOMALACIA is rare enough in this country to make this case, perhaps, worthy of record

On June 14th, 1910, the patient, a married woman aged 34, small and severely deformed was carried into the out-patient room of the Nottingham Hospital for Women This was her history Seven years previously, being then "as straight as anybody" and two inches taller than at present, she was married Her first child was born nearly three years later—a girl, three weeks premature, weighing 4½ lb , parturition normal This child is now living and healthy During her pregnancy the patient felt a good deal of back ache, but no deformity was noticed She was able to feed her baby partially for nine months Soon after the confinement, however, obvious curvature of the spine was seen, and weakness and pain in the back increased gradually In 1908 she was treated for some weeks as an in patient of Derby Royal Infirmary Massage and electricity, as well as rest, &c , brought about much improvement for a time Towards the end of December, 1909 the pain and weakness returned, but in February, 1910, she became pregnant She had never miscarried, and there had been no symptoms pointing to syphilis or any other disease except that in 1904, one year after marriage, she had been in bed a fortnight with "bad pains in the inside," supposed to have had some connexion with bad smells This was two years before the birth of her first child

On admission the condition of the patient was pitiable She stood with difficulty, and a combination of severe lordosis with scoliosis made the abdomen extremely prominent There was apparent narrowing of the space between the ischial tuberosities Marked superficial tenderness made all examination difficult She was taken into the hospital for a few weeks for observation and nursing, the diagnosis being osteomalacia On vaginal examination the ischial bones and rami were pressed inward, and the pelvic outlet only admitted two fingers The uterus was high, and pregnant about four and a half months There was marked asymmetry of the pelvis, the left side being the smaller

Pelvimetric measurements taken twice over on July 2nd showed 3 cm (nearly 1½ in) difference between the two sides in the distance from the mid point of the iliac crest to the mid point of the top of the sacrum The inter trochanteric distance was only 24 5 cm , the normal average being 31 cm The anterior interspinous distance was 21 5 cm and the intercristal 27 cm The deformity was therefore not rachitic The conjugate diameters could not be taken accurately, partly because of the deformity of the outlet and partly because of the extreme tenderness of the whole body This was so great that the nurses could not lift the patient with their hands, and even being raised or rolled over in a sheet was painful It was ascertained that the contraction was not chiefly at the pelvic brim and, as the measurements indicated, that the pelvis was oblique with an approach to the triradiate form The bones were not palpably soft in ordinary examination The extreme tenderness was a striking feature of the case, especially as the patient afterward proved not to be neurotic

The patient remained in hospital a few weeks and then, after consultation with my colleagues, I sent her to her home in the country, and to the care of Dr J J Tobin, of Ilkeston, with directions to return early in November for Cæsarean section This, of course, was with the full knowledge and consent of the patient and her husband On Nov 9th labour set in, with strong ineffectual pains I therefore, with the kind assistance of my colleagues, Dr C V Taylor and Dr W R Smith, Dr J Watson giving the anæsthetic, performed a radical operation, first extracting the child (a boy, 3½ lb) and placenta, and then removing the uterus, tubes, and ovaries There was considerable hæmorrhage and the patient was much collapsed at the end of the operation She made an excellent recovery and left the hospital in December

The child lived only three months , but the mother improved steadily, so that in April, 1911 she came to a clinical meeting at the Nottingham Medico-Chirurgical Society, and seemed well pleased with the amount of attention she received Last September, 22 months after the operation, I saw her again She looked well and strong, and though she still stooped a good deal her appearance did not strike one as deformed She said she felt that she held herself more upright as time went on She was doing all her housework The only unsatisfactory point was the existence of a small abdominal hernia which could easily be cured The abdominal walls had been so pendulous and atonic that the hernia did not surprise me

As to the causation of this case I can offer no suggestion The patient is the wife of a well to do working man, and when the disease came on she was living in a healthy district in Derbyshire Except by operation she had no special treatment Nursing, good food, and tonics were, of course given But the cure was obviously due entirely to the operation, which brought about at the same time the cessation of pregnancy and the removal of noxious material from some part of the genital organs

The following measurements, showing certain bony changes, may be regarded as confirming the diagnosis They were taken in exactly the same way, with the assistance of the same sister on each occasion The measurements were made (1) on July 2nd, 1910, and (2) on April 11th, 1911 Distance between iliac crests (1) 27 cm , (2) 25 cm Distance between trochanters (1) 24 5 cm , (2) 23 cm Distance from mid point of iliac crest to mid-point of top of sacrum (1) R , 18 cm , L , 15 cm , (2) same distance each side 14 5 cm The other measurements showed slighter differences

Nottingham

CONGENITAL ABSENCE OF BOTH THUMBS

BY J H SEQUEIRA M D LOND , F R C P LOND , F R C S ENG ,

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COMPLETE absence of both thumbs is an exceedingly rare malformation, and the case I now report possesses several points of great interest which render it worthy of a detailed record

The patient, a young Polish Jew, presented himself in the Skin Department of the London Hospital on Dec 19th, 1912, for treatment of a Hunterian chancre He was 19 years of age and he was born without thumbs He was a short, slenderly built man, healthy in all other respects, but, original type in its simpler lock and in a mechanism to allow of one handle being used as a sharp crotchet, as in Freke's instrument. It is uncertain if Grégoire devised this modification, since he never wrote on his own forceps, and Boehmer is the original literary authority. Orme-Lowder forceps: Very short, blades straight, broad, narrower at the free ends, which are 1⅝ inches apart when the handles are closed. The fenestræ are wide. The evidence again is that of contemporaries, because Orme left no writings; Lowder admitted Orme's priority in some manuscript lectures. Kühn wrote the first published description of Orme's forceps in 1783. Mulder, a pupil of Orme and Lowder, published important evidence and sketched their forceps himself. The inventors considered that the wide fenestræ and narrowing of the broad blades near their tips adapted the instrument to the fœtal head. Lowder rejected Orme's leather covering for the handles. Mulder and Kilian differ as to the extent of the leather covering in Orme's forceps. The instrument exhibited seems intermediate, being longer than Orme's and shorter than Lowder's, whilst the handles are lined with leather. There is a misstatement of Kuhn as to appointments held by Orme and Lowder, as there is an absence of evidence in the records of Guy's Hospital that the latter ever held an appointment there. Haighton's forceps are an exaggeration of the main features in the Orme-Lowder type, but there is no description of his forceps in his manuscript lectures. Blundell, Haighton's nephew, notices Orme's and his uncle's forceps in his text-book, ignoring Lowder's. There is some uncertainty about the precise nature of variation in Haighton's instrument. Radford figures it. David Davis designed forceps with even wider fenestræ. Conquest's widely fenestrated forceps had a screw-joint in one handle. Osborn's Forceps: The instrument exhibited corresponds exactly to the drawing in the inventor's "Essays" (1792). A light forceps with relatively slender blades bearing a pelvic curve and broadest at the tips, which are three-quarters of an inch apart when closed. The whole instrument, including the fenestrae, is covered with leather. Mulder's contemporary evidence and Denman's own writings award the priority to Osborn. Denman's forceps were similar but the blades had no pelvic curve. Thynne made the blades proportionately longer according to Mulder; Thynne himself left no description of his modification in the abstract of his lectures.

SECTION OF PSYCHIATRY.

Insanity and the Neuropathic Inheritance.

A MEETING of this section was held on Jan. 28th, Sir GEORGE H. SAVAGE, the President, being in the chair.

Dr. F. W. MOTT read a paper on Insanity and the Neuropathic Inheritance. He said there were individuals born of sound mental and physical stocks that no acquired conditions—e.g., disease, drink, poisons, either engendered within the body or taken from without, head injuries, emotional shock, distress and even profound misery and destitution combined—could render insane. There were others, and these were, in most cases, derived from a neuropathic stock, whose mental equilibrium might be disturbed by any one of these conditions or even without any apparent cause, except the physiological conditions appertaining to the functions of the sexual glands at puberty, during adolescence, the puerperium, lactation, and the climacteric period in women. Between these two extremes one found all gradations of menthlity, from the congenital imbecile and the insane adolescent dement at one end of the scale to the potentially sound mind and body which no combination of acquired conditions could render permanently insane. Every case of insanity should be regarded as a biological problem, and the study resolved itself into the acquirement of a knowledge of what the individual was born with—nature—and what had happened after birth—nurture. The former of these could be ascertained by a study of the ancestral stocks. The neuropathic tendency might be manifested in different members of the stock in different ways. Just as bodily features were transmitted from one generation to another, so was temperament. Special racial and family characters were of later development, therefore were far less fixed, stable, and organised in the nervous system. Galton found that twins developed from one ovum, and therefore identical germ plasm, living in a different environment, remained similar in temperament and character; whilst dissimilar twins, brought up and living in the same environment, remained dissimilar. Galton also made a statistical inquiry into the inheritance of good and bad tempers; and concluded that one set of influences tended to mix good and bad at haphazard, another tended to assimilate them, another tended to divide families into contracted portions; and in that way there was a tendency to revert to the normal average of the race. Morel had pointed out that nervous, irritable weakness and neurasthenic predisposition might be the first evidence of degeneration of a stock. The signs of degeneracy might be manifested as self-centred narrow-mindedness in religious beliefs, fanaticism, mysticism, spiritism, and unwholesome contempt of traditional custom, social usages, and morality, a vain spirit of spurious art and culture, a false, self-loving vanity in the pursuit of a sentimental altruism, the intelligence being well preserved. Such qualities might be combined with latent or active genius; but the brilliant intellectual qualities of a degenerate were generally associated with either a lack of moral sense or of sound judgment and higher control. Dr. Mott declared that the world's history had been made by men who were either epileptics, insane, or born of a neuropathic stock: Alexander the Great, Julius Cæsar, Napoleon, Peter the Great, Frederick the Great, Pitt, Earl of Chatham, Mahomet, the Apostle Paul, Martin Luther, Emmanuel Swedenborg, and others. Among English poets, Cowper, Wordsworth, Byron, Gray, Burns, Chatterton, Thompson were either insane or possessed the neuropathic temperament. Dr. Mott then proceeded to describe the work which had been done in the pathological laboratories of the London county asylums on heredity in relation to insanity, chiefly by means of a card system which he instituted four years ago, the cases inquired into having reached 3118, concerning 1450 families. That showed the following facts: (1) In the insane offspring of insane parents daughters were much more numerous than sons; (2) amongst the insane members of the same family (brothers and sisters) sisters were more numerous than brothers, which fact might be usefully correlated with the further fact that there were more women in asylums than men. More than half the residents of the London county lunatic asylums had been secluded there more than ten years. Among the reasons for the preponderance of women inmates were that general paralysis, which was three times more frequent in men than in women, was a fatal disease; again, women were more likely to be insane because of the physiological emergencies connected with reproduction; moreover, women had a more unstable nervous system or mental equilibrium. To those factors must be added, in his opinion, the enforced suppression, by modern social conditions, of the reproductive functions and the maternal instinct in women of emotional temperament. Dr. Mott then proceeded to establish the principle of anticipation or antedating, and nature's means of mending or ending degenerate stock, showing a number of pedigrees, one of which exhibited the elimination of unsound elements in a stock in which there was a dual insane inheritance. It was generally admitted that in the pedigrees of general paralysis of the insane the neuropathic taint was not found to anything like the extent that it was in the pedigrees of patients suffering from neuroses, psychoses, and feeble-mindedness. This was not surprising, seeing that general paralysis was an organic disease due to the action of the syphilitic organism. He had been able to support his contentions by the investigation of upwards of 3000 relatives of persons admitted into the London county asylums.

Dr. E M. WHITE demonstrated a number of very instructive Pedigree Charts and the manner in which the data were ascertained. It seemed to be the general rule that the abnormality on the mother's side was greater than that on the father's side.

The PRESIDENT referred to some cases within his experience in which a man, after a head injury, slowly became weak-minded, and the children, begotten after it, were also weak-minded. He also spoke of the alternation of neuroses, gout or [illegible] insanity in several cases he had s [illegible] insanity were said to behave in t [illegible] sometimes had insane or epileptic offspring. Marriage between offspring of degenerate parents was not such a serious matter where the contracting parties did not themselves show a neurotic taint as where that did exist This presence or abs[illegible] into the question of [illegible]

Dr. ROBERT JONE[illegible] general paralysis, and found that in 28 per cent there was a history of paralysis of some kind in the progenitors, in some of whom it was called "spinal paralysis"; he knew it was general paralysis in some. And there was a history of some member having been insane in 38 per cent; while in 18 per cent. there was a history of drink in the parents. 12 per cent gave a history of epilepsy, and 31 per cent a history of tuberculosis. He considered that disorders of the ductless glands were responsible for much insanity. He believed in the transmissibility of general paralysis of the insane.

Dr. T. B. HYSLOP pointed out the protean character of conditions grouped as insanity, and the fact that in some cases the condition was due to a gross physical defect, such as in the thyroid gland; and he counselled caution in applying Dr. Mott's statistics in too sweeping a manner.

MEDICAL SOCIETY OF LONDON.

Exhibition of Clinical Cases and Pathological Specimens

A MEETING of this society was held on Jan. 27th, Sir WILLIAM WATSON CHEYNE, the President, being in the chair.

Dr. F. PARKES WEBER showed a case of Splenic Anæmia. The patient, a pale, dark-skinned woman, aged 30 years, was admitted under his care at the German Hospital on Oct. 16th, 1912, with chronic enlargement of the spleen and a leucopenic type of anæmia. Under treatment (with occasional intermissions) by arsenic—Fowler's solution, arsacetin, and finally neosalvarsan—the spleen had diminished in size, the anæmia had almost vanished, the patient had gained in body-weight, the menstrual flow had increased, and there had been a subjective sense of improvement. The conjunctivæ had lost their previously yellowish tinge, and the urine no longer gave the reactions for excess of urobilin and for urobilinogen which were at first present. The blood plasma was of medium yellow colour and apparently free from bilirubin There was perhaps, very slightly increased fragility of the red blood cells towards hypotonic salt solutions, hæmolysis taking place partially with 0·45, and completely with 0 4 per cent aqueous solutions of sodium chloride. Wassermann's reaction negative. Dr. Parkes Weber believed that the case was one of a clinical group of cases of "splenic anæmia" in adults which improve under [illegible] necessarily develop into typic[illegible] with hepatic cirrhosis and ascites. The existence of this group of "splenic anæmia" cases must be taken into consideration when estimating the results of the operation of splenectomy in *early* cases of "Banti's disease." As in cases of so-called "acquired chronic acholuric jaundice" with anæmia and splenomegaly, cases like the present one might (at all events, temporarily) show a subicteric tinge of the conjunctivæ, some excess of urobilin in the urine, and slightly increased fragility of the red blood corpuscles [illegible]utions.

[illegible] showed a case illustrating a [illegible] Acholuric Jaundice. It was probably a case of tertiary visceral syphilis with pyrexia and extreme cachexia The patient was shown by Dr Weber at the Medical Society of London on Feb 8th, 1909, as "a case of acquired chronic acholuric jaundice with a blood picture at one time resembling that of pernicious anæmia" Examination of her blood on Jan. 31st, 1908, had given the following result.—Hæmoglobin (by Haldane's method), 18 per cent of the normal; red cells only 900 000 in the cubic millimetre of blood; white corpuscles, 6000; colour index, 1. The differential count of the white cells gave:—Lymphocytes, 45 6 per cent; intermediates, 4 8 per cent; large hyalines, 2 4; neutrophile polymorphonuclears, 46 0; eosinophiles, 0·8, mast cells, 0 4 During the count of 500 white cells Dr. A E. Boycott saw no ordinary [illegible] blasts) of [illegible] red cells, [illegible] to their [illegible] matophilic red cells and many punctate basophilic red cells. Decided anisocytosis and poikilocytosis were present, as in pernicious anæmia The blood picture at that time was one of typical "megaloblastic degeneration," but a striking feature was the association of chronic acholuric jaundice, and the case likewise differed from pernicious anæmia in regard to the enlargement of the spleen and liver. The liver extended two or three fingerbreadths below the ribs, and the spleen, which was hard, reached almost to the anterior superior iliac spine In the treatment of the case the arsenical preparation known as atoxyl was especially employed, but the great improvement which ultimately followed could not with certainty be attributed to the atoxyl, as the period of the most decided improvement commenced a considerable time after the atoxyl treatment had been discontinued. In December, 1908, the blood showed nothing abnormal beyond slight anæmia Since that time the condition had remained fairly good, and the patient had been able to do ordinary household work On July 17th, 1911, the red cells numbered 5,330,000 to the cubic millimetre of blood When exhibited the patient was suffering from interstitial keratitis of the right eye This commenced about June, 1912, and was evidently regarded at an eye hospital as of syphilitic origin, for she was given an injec[illegible] and the reaction for urobilin in the urine was *positive.* The case certainly confirmed the remarks of Dr G R Ward and other observers on the uncertain prognostic value (when considered by itself) of the blood-picture of the so-called "megaloblastic degeneration," which was at one time regarded as pathognomonic of pernicious anæmia As to the cause and real nature of the severe and long-continued illness in 1908 there was still considerable doubt. Was acquired chronic acholuric jaundice with splenic enlargement and severe anæmia (like that from which this patient sufferdd) an independent disease of unknown etiology, or was it merely a clinical picture-type or symptom complex, which might be due to various causes? In this connexion it was important to note that the patient's blood serum now (January, 1913) gave a positive Wassermann's reaction for syphilis and that she was suffering from interstitial keratitis. [illegible] syphilis might indeed occasionally give rise to an [illegible]aracterised by enlargement [illegible]npanied by general cachexia and anæmia, from all of which symptoms this patient suffered in 1908 In all probability the entire illness of 1908 was of tertiary syphilitic origin The atoxyl treatment in 1908 might, like the modern salvarsan treatment, though to a lesser extent, have exercised a decided anti-syphilitic effect

Dr J L BUNCH showed a case of Lupus Erythematosus in a girl aged 14, which demonstrated the good effects of treatment by carbon dioxide snow; and also a case of [illegible] resembling Tubercle in the neck and upper [illegible]n She had been treated by [illegible] or tuberculous glands in the [illegible] other small swellings in the same region, had treated herself in the same way. When first seen by Dr. Bunch a large ulcerated patch had resulted. This healed quickly under treated by potassium iodide internally

Mr. PAUL B ROTH showed a patient on whom he had successfully performed Transperitoneal Ureterolithotomy He said that in January, 1910, Mr Sinclair White had published[1] a paper on Ureteral Calculi, and gave notes of two successful cases of transperitoneal uretero-lithotomy His description of the operation was so clear, and the arguments which he advanced in its favour were so convincing, that he (Mr Roth) determined to perform the operation on the first suitable case, which was the boy now shown. The patient, aged 8, was examined on Sept. 17th, 1912. He looked ill and delicate, and was said to have suffered from pain on passing urine for 18 months, the pain being felt over the lower abdomen, and occurring always at the beginning of the act On four occasions in the urine there had been dark blood, which had covered the bottom of the chamber, the last occasion being three months previously. On these occasions there had been increased pain. There was apparently no increased frequency of micturition. Examination of the abdomen and of a specimen of the urine revealed nothing abnormal. A diagnosis of stone in the bladder was made. A week later the bladder was sounded under an anæsthetic, but no stone was felt. On Sept. 29th an X ray examination was carried out by Dr. W. Ironside Bruce, which showed the outline of the left kidney increased in size, and in the line of the left ureter about 3 inches from its vesical end, a small oval-shaped opacity suggesting an impacted ureteric calculus. Both those points were well demonstrated in radiograms. The boy was kept under observation, and on Nov. 8th he again passed some blood in the urine; it lasted slightly for two days. On this occasion there was no pain, but he felt "irritation of his privates." Operation was then decided upon, and was performed on Nov. 25th. After again sounding the bladder with negative result the patient was placed in the Trendelenburg position, and the lower abdomen opened by a vertical incision through the left rectus sheath. The intestines were packed out of the way with gauze and the rectum pushed over to the right. On introducing the fingers the stone was at once felt on the left side 1½ inches below the brim of the pelvis and apparently the same distance from the bladder. The left ureter appeared beneath the peritoneum as large as a piece of small intestine. As all attempts to push the stone up to the brim of the pelvis failed, the parietal peritoneum was incised above and the ureter isolated. A temporary ligature was placed round the proximal portion and the ureter itself raised up and packed round with gauze. A vertical incision was then made in it on its anterior aspect, about a drachm of urine escaping; a long-necked spoon was introduced, and at the second attempt the stone was dislodged and delivered through the opening. A probe was passed down to the bladder and up to the kidney, and, all being clear, the wound in the ureter was closed with four catgut Lembert sutures. The temporary ligature was removed and the divided peritoneum brought together over the ureter; the abdomen was closed without a drain. The operation lasted 50 minutes. In addition to the enormous hypertrophy and dilatation of the whole ureter there were marked thickening and induration of that part of it which had been occupied by the stone. Mr. Roth said it would have been better to have twisted the isolated ureter round and incised it on its posterior aspect; also the incision need not have been nearly so long. Neglect of these points might account for slight symptoms of peritonitis which occurred on the following day, the temperature rising to 100° F. and the abdomen becoming moderately distended. This latter was entirely relieved by a small soap-and-water enema, and the boy made an uninterrupted recovery. The wound healed by first intention, the stitches being removed on the tenth day. The stone was oval in shape, its diameters being 5/16ths and 7/16ths of an inch; it was composed of small, sparkling oxalate (?) crystals, which caused its external surface to be very rough and jagged. The extreme ease with which the operation was performed had led him to bring it to the notice of the society.

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[1] Brit. Med. Jour., Jan. 1st, 1910.

Mr. W. H. CLAYTON-GREENE showed a specimen of Hairball removed from the stomach. The patient, a young woman aged 23, had suffered from abdominal pain and vomiting, and a tumour had been felt in the upper part of the abdomen. A radiogram favoured the view that the swelling was gastric. By operation a large hairball was removed, which formed a cast of the stomach and duodenum. Another smaller portion was free in the stomach. Most of the hair was dark like her own, but some was fairer. After the operation it was first noticed that she was wearing a wig.

Mr. CLAYTON-GREENE also showed a specimen of a Peculiar Appendix. It formed a large cystic swelling in the right iliac region, which was removed together with small adjoining portions of the ileum and colon by operation. Subsequently it proved by naked-eye and microscopical examination to be a large mucocele of the appendix.

Dr. FREDERICK LANGMEAD exhibited the Suprarenal Glands removed from a boy, aged 10, who died from Addison's disease. Both glands consisted almost wholly of fibrocaseous tuberculous material. The heart was hypoplastic. It was shown because of the great variety of the disease in childhood.

Dr. T. S. LUKIS showed a case of Acholuric Jaundice in a boy aged 6½ years. He had been pale from birth, but had no jaundice during early infancy. Gastro-intestinal trouble and frequent bronchitis had been present. A tumour on the left side of the abdomen was first noticed by the mother before the child was one year old, and had persisted ever since. Jaundice was first noticed on Nov. 18th, 1911. He had been ill for four weeks, with pale motions and urine the colour of red ochre, and had been jaundiced on and off ever since. There was no family history of jaundice or splenic anæmia. On admission, Dec. 11th, 1912, the child was very anæmic, weak, and dyspnœic on exertion. The skin and mucous membranes were definitely jaundiced. The urine contained urobilin but no pigments or salts. The motions were normally coloured. The liver reached one finger's breadth below the costal margin. The spleen was markedly enlarged and firm. A blood examination on Dec. 11th showed: Red cells, 1,524,000; hæmoglobin, 25 per cent.; colour index, 0·8; white cells, 13,500; myelocytes, 3 per cent; nucleated red cells, 17 while counting 200 white; reticulated erythrocytes, 20 per cent.; fragility, 0·55. The patient's general condition had much improved under treatment with arsenic. The temperature had frequently been raised to 99·4°F., but never higher except during an attack of tonsillitis. The bowels were obstinately constipated. The Wassermann reaction was negative. A blood examination on Jan. 15th showed: Red cells, 2,200,000; hæmoglobin, 30 per cent.; colour index, 0·7; white cells, 19,700; myelocytes, 2 per cent.; nucleated red cells, 16 while counting 200 white; reticulated red cells, 14·6 per cent.; fragility, 0·55.

Mr. E. C. RAYNER showed, for Mr. C. A. BALLANCE, a case of Bony Tumour of the Femur in which a question arose as to whether the tumour was a simple osteoma or osteo-sarcoma.

LIVERPOOL MEDICAL INSTITUTION.

Fracture of Neck of Femur.—Acute Yellow Atrophy of the Liver.—Carcinoma of the Rectum.

A MEETING of this society was held on Jan. 23rd, Mr. ROBERT JONES, the President, being in the chair.

Mr. RUSHTON PARKER read a note on Fracture of Neck of Femur, and showed specimens from two cases, also lantern slides. One case was from a patient, 82 years of age, who died ten days after the injury. The other patient was 72, and died ten weeks after the injury. The specimen showed true bony union. Mr. Parker said he preferred to treat them on a "Thomas" hip splint, though in some cases the "Thomas" knee splint answered.—The PRESIDENT said the specimens were worthy of attention, as the possibility of bony union was denied. In making the initial diagnosis an injury to the hip which produced eversion of the foot and some loss of power in the leg was quite sufficient. In treating these cases he used extreme abduction of the injured limb. By this means the broken surfaces were turned on to each other, muscular tension was released, and if an angle of 45° were obtained the neck of the femur was fixed against the acetabulum. He reduced displacement by pulley or manual extension, then abducted the limb with the knee flexed. The limb was fixed in a special abduction frame, or where an injury occurred out of reach of apparatus good fixation could be obtained by plaster-of-Paris. Fixation should be kept up for at least two months, usually three months. Massage and passive movements were important; the patient could be trained to move the limb in the abducted position. In cases in which deformity had occurred and the limb was adducted with eversion he forcibly abducted the limb under an anæsthetic and kept it fixed for ten days and then massaged.

Dr. NATHAN RAW read a note on Seven Cases of Acute Yellow Atrophy of the Liver, which demonstrated the relation of the disease to syphilis. Four males of the ages of 23, 15, 40, and 27, and three females, 17, 23, and 26 years of age, all had syphilis. In four of the cases leucin and tyrosin were demonstrated in the urine. In one of the females, a girl aged 17, there was a six months' pregnancy.

Mr. K. W. MONSARRAT read a paper on Carcinoma of the Rectum. He first discussed the question of the extent of operation. He described the result of examination of two specimens derived from abdomino-perineal amputations. In both specimens the extent of intramural infiltration was confined to the neighbourhood of the growth. He did not consider that pathological anatomy imposed the duty of removing a large amount of bowel above the growth. He considered that an inguinal anus was preferable to a sacral or a perineal anus. He then drew attention to the high mortality of the combined operation in males, and considered that this method was not advisable in men unless the general condition of the patient was exceptionally good. On the other hand, the combined operation was the method of choice in women. He had performed the combined operation in one case of low pelvic colon cancer in two stages, but did not consider that this plan was advisable.—Mr. F. T. PAUL said it was 35 years since he had first removed a rectal cancer; and he had found that the growth did not extend far in the length of the bowel. The microscope showed practically no infiltration beyond the naked-eye margin of the growth. The colloid form was of bad prognosis and gave extension in the glands. In the ordinary cancer there was not usually glandular infection, except where the growth involved the margin of the anus. In his experience the formation of a sacral anus had been satisfactory if small and tight, while a perineal anus was unsatisfactory. In the former the gut had a rectangular turn which had a valve action, while the straight gut in the latter allowed incontinence and prolapse. The inguinal anus was good, but he thought the sacral the more satisfactory. He did not consider an abdominal incision necessary. He did not think high and fixed cases, especially if involving the bladder, worth the risk of removal of the growth, especially as cases might live for years after an inguinal colotomy alone.—Mr. R. W. MURRAY thought the radical operation unsatisfactory, and even went so far as to believe these cases were best left alone until a colotomy had to be done. He had seen a large number of cases in Vienna, some of which had been done 14 years ago; when he saw the condition of the artificial anus in the sacral region he had been unfavourably impressed. He thought an inguinal anus the least harmful.—Mr. DAMER HARRISSON and Dr. RAW also took part in the discussion.

EDINBURGH OBSTETRICAL SOCIETY.

Ruptured Primary Ovarian Pregnancy.—Insemination and Parturition.

A MEETING of this society was held on Jan. 8th, Dr. J. HAIG FERGUSON, the President, being in the chair.

Mr. GEORGE L. CHIENE read notes of a case of Ruptured (very early) Primary Ovarian Pregnancy, and demonstrated his remarks with lantern illustrations. Having mentioned the causes of serious ovarian hæmorrhage, he then shortly referred to the literature on ovarian pregnancy. His own case was that of a married woman, aged 34, who was admitted to hospital supposed to be suffering from acute appendicitis, but the symptoms pointed rather to an internal hæmorrhage, and the question of a ruptured ectopic gestation was considered; the menstrual history, however, was perfectly normal. A laparotomy was performed, and, a large quantity of blood having been evacuated, a bulging mass, about the size of a cherry, was observed to be protruding from the uterine end of the right ovary. The ovary was rapidly removed. The patient made a good recovery, soon afterwards again becoming pregnant, and in due course gave birth to a healthy child. The ovary was cut in serial sections. Chorionic villi were present in the blood-clot, but no fœtus was found, nor were there any signs of a corpus luteum, lutein, or decidual cells. The pregnancy was probably either one of 10 or 22 days' duration.—Dr. A. H. F. BARBOUR mentioned a special point of interest—that it occurred at the uterine end of the ovary, otherwise it would have been less distinct if near to the fimbriated end of the tube or adherent to it. Another point was that there was such a very profuse hæmorrhage filling the abdomen with blood.—Dr. F. W. N. HAULTAIN considered the main point of interest was that no bleeding occurred from the uterus. Here there had been no regurgitation of blood down the tube and escaping from the uterus. It was not always the case that symptoms of stoppage of menses or irregular hæmorrhage occurred. He had met several with no symptoms of any kind.—Dr. G. F. B. SIMPSON, Dr. D. BERRY HART, Dr. JAMES RITCHIE, Dr. W. FORDYCE, Mr. E. W. SCOTT CARMICHAEL, Dr. JAMES YOUNG, and the PRESIDENT discussed the paper. All agreed that it was undoubtedly a case of ovarian pregnancy.—Mr. CHIENE replied.

Dr. BERRY HART read a paper on the Duration of the Interval between Insemination and Parturition in Certain Mammals as studied in Biometric Curves, with Special Reference to the Calculation of the Onset of Labour in Human Pregnancy. The statistics of Tessier on ewes, and on cattle by Earl Spencer and Tessier relative to the interval between insemination and parturition were first considered. The statistics in regard to 912 ewes gave a symmetrical narrow probability curve like that of coin-tossing, where 50 are thrown for a certain number of times. In the Tessier-Spencer cases, 1205 in all, the curve was similar but somewhat skew. The late Professor von Winckel gave the statistics in 245 cases where the infants weighed over 4000 grammes, and these also gave a probability curve, but one less narrow and with several freaks; it needed smoothing out. The greatest number of cases lay between the 284th and 288th days reckoned from the first day of the last menstruation. Dr. Berry Hart concluded: 1. These cases gave a probability curve symmetrical in ewes, somewhat skew in cattle, and irregular in the human female so far as yet observed. 2. The initial date of calculation in the human female should be the first day of the last menstruation, and the date of labour would be some time in the fortnight containing the 280th day as its centre. Thus, the date of labour could not be exactly stated, but was only a probability one. 3. Labour in von Winckel's cases was prolonged in some instances to the 334th day, and the whole range lay between the 240th and 334th days. 4 This prolongation of date was usually considered as a prolongation of the duration of pregnancy, but it might be due to fertilisation of the ovum shed at the next period, and this would account for the prolongation in a simple way. 5. Some explained the prolongation as a real extension of the pregnancy, and pointed out that in some of the cases the weight of the infants was much above the average. The evidence as to this was unsatisfactory. 6. There is certainly no exact number of days for the duration of human pregnancy and the probable curve is as yet unknown.—Dr. BARBOUR considered it was quite right to work by mean and not by averages. There was the possibility of having to deal with the impregnation of an ovum before the next menstruation, but there would then be a curve with a double head. Dr. Berry Hart's curves were valuable for the past, but it was questionable whether they were of practical value in making a calculation for the future in any case.—Dr. HAULTAIN considered it quite certain that there were cases of protracted gestation, and that in these cases the child was larger. He instanced a case where a woman in her first pregnancy went 2½ months past her expected time, and the child had to be broken up. The next time her labour, to which he was called, came on about six weeks after the calculated date, and a child was eventually born with much difficulty, weighing 13 lb. 12 oz. Labour was induced on the next occasion two weeks after full time, resulting in a living child weighing 10 lb.—The PRESIDENT alluded to the method of calculating the duration of pregnancies as ten cycles of 28 days each, and less or more according to the menstrual type.—Dr. FORDYCE and Dr. YOUNG spoke on the subject.—Dr. BERRY HART, in reply, said the lesson was that the calculation of the duration of pregnancy was a matter of probability, never an exact thing. The larger infants after what was considered protracted pregnancies might be due to an element of giantism from abnormal function of the pituitary body.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held in the Glasgow Royal Asylum, Gartnavel, on Jan. 17th, Dr. J. Crawford Renton being in the chair.—Dr. Ivy McKenzie showed and described pathological preparations from the following cases:—1. A woman, aged 40, an inmate of the Gartnavel Asylum, suffering from recurrent insanity with symptoms of exophthalmic goitre, leucoderma and bronzing of the skin, auriculo-ventricular tachycardia (230 per minute), and auricular fibrillation. Post-mortem examination showed disease of the thyroid gland and of the upper cervical sympathetic ganglion, and hypertrophy of the medullæ of the suprarenals. 2. A man, aged 40, a dement, who died suddenly in Gartnavel Asylum with symptoms simulating intestinal obstruction, tympanites, fæcal vomiting, &c. Post-mortem examination showed necrosis of the pancreas and necrosis of the mucous membrane of the whole length of the small intestine, with marked congestion of the other coats of the small intestine.—Dr. David Newman read a short paper on Certain Urinary Conditions in Women associated with Frequent or Painful Micturition, and demonstrated with the projectoscope the cystoscopic appearances presented in the early stages of tuberculosis of the bladder and in the various stages of colon bacillus infection of the bladder. He pointed out that one of the slightest forms of colon infection of the bladder is seen frequently in infants and young children as the result of want of cleanliness in changing the child's napkins. The frequency of micturition may not be noticed in infancy, and for years afterwards the child suffers from noctural incontinence, which may persist until puberty or even later.—Dr. J. A. Wilson read a paper on Myopia, a Review of 500 Cases, with Special Reference to their Etiology. From an analysis of his cases he found (1) keratitis as the cause of myopia in 16 per cent.; (2) evidence of heredity in 54·8 per cent.; and (3) cases without opacities and without evidence of heredity in 29·2 per cent. In the hereditary group were 17 cases with opacities; 65 cases showed monocular myopia, largely accounted for by keratitis and by heredity. Lenticular changes were found in quite young people. The evidence regarding near work as a cause was reviewed, and it was pointed out that German school hygiene had not lessened the amount of myopia. It was essentially an enfeeblement, and developed both before and during school years, school work being an industry which was contemporaneous with the manifestations of heredity.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 31st, Dr. J. F. Dobson, the President, being in the chair.—Dr. G. W. Watson opened a discussion on Tuberculin, its place in modern medicine. Remarks were made on the varieties of tuberculin in common use, and the various methods of administration were outlined, with descriptions of the types of case suitable for each method. Dr. Watson was of opinion that the efficacy of tuberculin was so far proved that its use was essential in the proper treatment of most cases of tuberculosis of the lungs. He deplored the tendency under recent legislation to make the treatment of phthisis a specialty, and to give it into the hands of a few, rather than to obtain the skilled and enthusiastic coöperation of the whole of the profession.—Dr. A. Christy Wilson spoke of his experience of Beraneck's tuberculin, and instanced cases in which it had proved of great value.—Dr. A. G. Barrs spoke of the treatment as being still on its trial, and confessed that no convincing example of its usefulness had yet come within his experience.—Dr Dobson spoke of the value of tuberculin in the treatment of cases of surgical tuberculosis He was in favour of the method of administration recommended by Wright —Dr. M. Coplans contributed some interesting information about tuberculosis in animals. —Cases were shown by Dr. J. B Hellier, Mr. A. L. Whitehead, Mr. G. Constable Hayes, Dr. Dobson, Dr. C. Oldfield, Mr. J. A. Coupland, Mr. Michael A. Teale, and Dr. Watson.

HARVEIAN SOCIETY.—A clinical meeting of this society was held at St Mary's Hospital on Jan. 30th. The following cases were shown:—Dr. Sidney P. Phillips: An abdominal case, probably tuberculous —Dr. W. H. Willcox: Two anomalous cases of Exophthalmic Goitre, a case of Chronic Enlargement of Joints resembling Charcot's joints, and a case of Perforating Ulcer of the Foot.—Dr. Reginald H. Miller: Post-pneumonic Fibrosis of the Lung, and a case of Endemic Cretinism 15 years old.—Dr E. G Graham Little: A man with Psoriasis covering his whole body, and a woman with Lichen Planus Hypertrophicus —Mr. V. Z. Cope: A case of Syringomyelia, and a case of Recovery after Rupture of the Jejunum —Dr. William Hill A case of Epithelioma of the Larynx, and a case of Stricture of the Pharynx after swallowing glacial acetic acid with suicidal intent.—Mr C W. G Bryan: A girl with a Sarcoma of the Lower Jaw, and a man with a Large Tumour just above the Ankle of doubtful nature. —Mr. D. C. L. Fitzwilliams: A Fibro-lipoma in a child, and a man with a Large Epithelioma growing rapidly from an old urinary fistula.

Reviews and Notices of Books.

The Evolution of the Vertebrates and their Kin. By W. PATTEN, Ph.D. London: J. and A. Churchill. 1912. Pp. 486. Price 21s. net.

THE views of Dr. Patten, which he has laid before the scientific world in many memoirs of late years, and which are now crystallised in the present volume, have something in common with those of the well-known English physiologist, Dr. W. H. Gaskell, of Cambridge. But there is this essential difference which appears to us to pull down the balance in favour of Dr. Patten, that while Dr. Gaskell demands the loss of the primitive alimentary tube as a part of the digestive system and its conversion into the neural canal of the vertebrate, Dr. Patten requires no such drastic evolutionary change. Dr. Patten, indeed, can arrive at an accurate comparison of the arachnid and vertebrate systems and organs without any such hiatus, and merely demands the exchange of the dorsal for the ventral surface in progression. Thus the old idea of the elder Milne-Edwards and of Geoffroi St. Hilaire is resuscitated in a somewhat unexpected fashion.

We can readily allow so much to Dr. Patten, for many invertebrates, notably certain archaic crustaceans, which are particularly implicated in Dr. Patten's scheme, do habitually swim upon their backs with the nervous system dorsally directed. But when we come to his detailed comparisons and to the general aspect of his scheme of development the same difficulties meet us that have been urged by many morphologists in regard to Dr. Gaskell's ingeniously argued views. It is certain that at the moment there is an almost unanimous consensus of opinion that the derivation of the vertebrate stock in the way suggested in the volume before us is impossible and contrary to all received principles. Nevertheless, those same morphologists are at hopeless variance when it comes to anything alternative. So far Dr. Patten is just in his criticisms, and there is always a trace in his arguments, and for the matter of that in the arguments of his opponents, of the essentially non-scientific kind of controversial method—the method of simple assertion.

It is held, for example, on the one side, that the path of evolution has led from the basal forms and not from the more specialised members of one group of animals to another. Therefore we should derive the vertebrates, say the supporters of this opinion, not from the higher groups of the segmented animals, such as arachnids, but from the lower—that is, from simple, worm-like creatures. Dr. Patten, and with him Dr. Gaskell, takes the reverse view. It must be admitted that the best arguments in the way of close anatomical reasoning have been adduced from this point of view, and Dr. Patten is to be congratulated upon the convinced and convincing way in which he has marshalled and used the actual facts at his disposal. To those of us who have lived long enough to see many "phylogenies" put forward with enthusiasm and die in obscurity and neglect Dr. Patten's attempt will not appear as final. And, indeed, the great difficulty in his way, which is in the way of all such attempts, is the necessary lack of information of crucial anatomical data. No fossil will ever yield certain points which it is essential that we should know. Particularly is this the case with those admittedly mysterious creatures, the ostracoderms, which are the pivot upon which Dr. Patten's reasoning turns. They are palæozoic animals, usually regarded as fishes or quite near to them. To Dr. Patten, however, they are arachnid in nature and at the base of the vertebrate series; but we cannot argue from their bony exterior to their viscera.

Apart altogether from his controversial theories, Dr Patten's volume has its uses We find there excellent figures and descriptions of many zoological facts, especially in regard to these ostracoderms As a text-book of the structure of *these animals and of the marine arachnids, i e*, limulus and its allies, Dr Patten's treatise is to be commended and may be accepted, as an exposition of an evolutionary view it cannot be ignored, but it must be studied with a more critical attitude

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Guide to Midwifery By DAVID BERRY HART, M D Edin, F R C P Edin, Lecturer on Midwifery and Diseases of Women, School of the Royal Colleges Edinburgh London Rebman, Limited 1912 Demy 8vo Pp 790 Four illustrations in colour and 268 diagrams Price 25*s* net

Dr Berry Hart has written in this guide to midwifery a book of much originality in contents and arrangement. Part I gives a succinct account of midwifery from a modern standpoint To each chapter there have been *added, when necessary, instructions as to what practical* work should be done and what specimens examined in order that the student may know the thing itself as far as possible, and not its imperfect concept verbally expressed In Part II notes have been added to certain chapters elucidating difficult points and giving summaries of new operations and of views and theories which would distract the reader in a first study of the subject The result is a book of great interest and one which does credit to its author

In the chapter on the development of the ovary Dr Hart puts forward his views that the oocytes originate from an early division of the zygote, and that the primitive germ cells derived from this travel to the Wolffian ridge, where they pass into the germ epithelium Thus one primitive germ cell of the fertilised *ovum or zygote has formed the individual*, while the others have passed into its genital ridge on the Wolffian body Dr Hart, as he explains in the chapter on evolution in Part II, holds that there are two kinds of ova, which he terms the Wolffian and non-Wolffian oocytes He believes that there are also, in all probability, two kinds of spermatozoa, the Wolffian and non-Wolffian spermatozoon Two different kinds of spermatozoa have actually been described in man, but this observation is disputed He regards it as highly probable that when fertilisation takes place it is a Wolffian ovum which joins with a non Wolffian spermatozoon; and a Wolffian spermatozoon with a non Wolffian ovum In this way the sex is determined at the time of fertilisation The author's well known views on the origin of the uro genital organs are set out in the consideration of the development of the posterior end of the embryo

Just as these early chapters contain much that is of absorbing interest, so the reader will find all through the book evidence of the author's originality of mind and profound knowledge of the literature of the subject. In Part II the section dealing with evolution in its relation to obstetrics, that on the mechanism of labour, and the discussion of the mechanism of the third stage of labour—in which the author's own views are set forth very fully—all make interesting reading, as do the sections on the internal secreting glands in their relation to obstetrics, and the various theories of the nature of eclampsia

Dr Hart says in the preface that in his view it would be better if a treatise on midwifery were not illustrated at all, and if the student studied the text and examined physiological and pathological specimens, bones, and microscopic specimens, instead of merely reading the book and looking at the illustrations Recognising the fact, however, that this is not practicable, a number of illustrations are given; many of these are original, and the rest are taken from the best known atlases and monographs. The coloured plates are exceedingly good, and form a notable feature

We strongly recommend this book, not only to students, but also to their teachers

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Occasional Papers on the Prevention of Some Common Diseases in Childhood By J SIM WALLACE D Sc, M D Glasg London Baillière, Tindall, and Cox 1912 Pp 103 Price 3*s* 6*d*

UNDER the above title Dr Sim Wallace publishes a series of papers which from time to time have appeared in various medical and dental journals The more important of these are essays on (1) Diet in Infancy and Childhood, (2) the Diet of School Children, and (3) the Prevention of Dental Caries It would be unfair to say that Dr Wallace has but one idea, but it cannot be denied that he lays more to the charge of "pappy food" than this undesirable form *of food deserves It is a physiological law that atrophy* or want of development follows want of use of any organ, and there can be no doubt that imperfectly developed and imperfectly mineralised teeth do result from the eating of soft foods, but there are other causes of dental caries and other causes of dyspepsias than defective teeth Dr Wallace's view that adenoids are almost confined to those children who sleep with open windows is perhaps, too eccentric to discuss seriously If we apply the physiological law that hypertrophy follows overaction, we arrive at the very sound position that the hyperplasia of the lymphoid tissue which constitutes the familiar adenoid vegetations must be dependent on over-work or over stimulation The chief function of the lymphatic system in childhood is bacteriolytic, so that on Dr Wallace's own method of argument we arrive at one of the causes of adenoids which can have no possible connexion with night air, and, indeed, one which is greatly aggravated by bad air It is far more likely that bronchitis and adenoid vegetations are caused, or at least promoted, by bad air, than that they are due to night air, as is maintained by Dr Wallace The development of the jaws and teeth by the mastication of hard varieties of food eaten is a result which needs no proof, though it is a truth that requires to be constantly brought home to those who have the charge of children, but that all the ills to which children are subject can be prevented by the author's dietary is a view which is not likely to gain general acceptance

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A Text book of Practical Therapeutics By HOBART AMORY HARE, M D, B Sc, Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia Fourteenth edition London Henry Kimpton 1912 Pp 984 Price 21*s*

IN order to prepare for the present edition the book has been enlarged, thoroughly revised, and to a large extent rewritten When this work first appeared the treatment of disease was more empirical than it is to day Dr Hare's endeavour has been to link together the rather dry facts of materia medica with the results of laboratory investigation, so as not only to demonstrate the application of remedial measures to disease, but also to attempt to explain their employment upon a rational basis He has recognised the fact that the physician at the bedside needs and desires all the help he can get, whether it comes from laboratory experiment or from bedside experience, and furthermore wants this help in a form in which he can use it when face to face with problems which are of vital importance to him and to his patients. Accordingly, the work has been planned so that every aspect of therapeutics is considered, and also so that reference to any particular remedy or to the treatment for any disease is easy.

The work is divided into four parts. The first is headed "General Therapeutical Considerations," and numerous hints are given as to the mode of action of drugs, the modes of administering drugs, and prescription writing. Part II. contains a description of drugs themselves, including their physiological action, the conditions in which they may be employed, and the methods of their administration. This portion of the work has been brought thoroughly up to modern requirements; the uses of salvarsan, tuberculin, and vaccine therapy are duly described, as well as the recent ideas in regard to the employment of cardiac tonics, especially digitalis. An interesting account is given of the toxic action of digitalis which by its influence on the vagi interferes with the passage of the contraction wave over the bundle of His. Further, the digitalis stimulates the ventricle to increased activity, and this aids in the production of extra systoles. The development of this phenomenon or of dropped beats during the administration of the drug is regarded as an indication for stopping it. In Part III. remedial measures other than drugs are considered, and amongst them Bier's hyperæmic treatment is fully described. The fourth part of the work is devoted to the treatment of disease, the various maladies being placed in alphabetical order.

Taken as a whole, the book is a thoroughly good one, but it will be found more useful as a work of reference than for the use of students.

LIBRARY TABLE.

Précis Pratique d'Électricité Médicale. By G. GEIGER, Doctor of Medicine of the Faculté de Paris. Paris: Jules Rousset. 1913. Pp. 409. Price 6 francs.—This is a useful handbook of medical electricity. Speaking generally, its chief function is to explain those technical questions that are usually very troublesome to those who have not devoted special attention to the subject. The first part of this manual is confined to the study of those more or less elementary physical matters that it is essential to know thoroughly before it is possible to understand the procedure in medical applications. In this section are included points relating to the X rays, light, and heat, so far as they apply to medical work. In the second part the various forms of apparatus are described along with the principles upon which they work and the proper methods of using them. In the third part practical applications and the best method of dealing with any particular condition will be found. A system of selection has been employed, so that for any particular disease we are given only the method or methods that are known to be really useful. We are thus spared much that is of little or no benefit, and this is an example that might with advantage be followed much more generally than it is. The manual is fully illustrated by many diagrams and other figures, and the author has succeeded very well in carrying out the main purpose of this work.

Extraction of Teeth. By J. H. GIBBS. With 53 illustrations. Edinburgh: E. and S. Livingstone. 1912. Pp. 163. Price 7s 6d. net.—We are informed by the author in the preface that "no progress has ever been made by orthodoxy, and it is his deep conviction that the orthodox methods of extracting teeth are wrong in principle and bad in practice that has induced him to consent to give a wider publicity to his own heterodox views." What are these heterodox views? One is that only two pairs of forceps are necessary for the extraction of teeth, one pair for the removal of the maxillary teeth and another for the mandibular. Now, one factor that is necessary for carrying out tooth extraction in a really scientific way is that the blades of the forceps should accurately fit the roots of the tooth to be removed. If a series of molar teeth be taken, and the instruments suggested by the author and those usually advocated be applied to the teeth, there can be no question that with the latter a far more accurate hold can be obtained. The practical experience, too, of the large majority of skilled operators and teachers is in direct variance with the author's views, and we can only say that the method advocated is likely to lead to clumsy rather than to neat operations. The position advocated for the "prop" is in the front of the mouth, and the author's illustrations show the interference this must cause to the use of the fingers for gripping the alveolar process. A "prop" at the back of the mouth gives a clear and unimpeded view of the field of operation. There are other points in the book to which exception may be taken, notably the method advocated for grasping upper forceps. With his views on the employment of anæsthetics in dental practice we are in complete agreement, and there are several valuable hints of use to the practitioner. The book would be more readable if the author had not been so discursive in the treatment of several sections of his subject.

London County Council, London Statistics, 1911-12. Compiled under standing orders and regulations of the London County Council. London: P. S. King and Son. 1913. Pp. 651. Price 5s., post free 5s. 6d.—This volume, which we have received from the Clerk of the London County Council, contains most valuable and interesting information illustrated by maps and diagrams showing in diagrammatic form the statistics of the administrative county of London and of the public services carried on therein, together with certain statistics of the adjacent districts. To anyone interested in the life and welfare of London this book is invaluable.

JOURNALS AND MAGAZINES.

The Journal of Hygiene. Edited by G. H. F. NUTTALL, J. S. HALDANE, A. NEWSHOLME, C. J. MARTIN, J. C. G. LEDINGHAM, and G. S. GRAHAM-SMITH. Vol. XII., No. 4. December, 1912. Cambridge University Press. Price 7s. 6d. —J. A. Arkwright describes investigations on an epizootic disease which occurred amongst salmon and trout in the south-west of England during the summer of 1911. It presented the same symptoms as the disease which occurs in Germany, Austria, and France, known as furunculosis of salmon. Abscess-like cavities, softened hæmorrhagic foci, and small hæmorrhages in the muscles were of frequent occurrence, but were also frequently absent. Congestion of the lower intestine occurred constantly. A pigment-forming bacillus occurred constantly in large numbers in the blood and internal organs and in the muscular hæmorrhages, but was absent from the very large proportion of healthy control fish. This bacillus is probably identical with B. salmonicida and B. truttæ, and is almost certainly the cause of the epidemic disease. It was present in some apparently healthy fish bred in captivity. These may have been examined during the incubation stage, or may have been healthy carriers. The bacillus was destroyed in a few hours by sea-water, and even by a mixture of equal parts of sea-water and tap-water, though it lived for at least five days in tap-water. It is therefore improbable that the salmon usually became infected in the sea. Cultures of the bacillus soon die out at 36° C. Hot weather favours the development of the disease. As the author states, a number of points still require investigation: whether salmon coming up from the sea are infected before they enter rivers; whether the spread of the disease from river to river is only due to the introduction of fish from other rivers and breeding stations; whether other fish besides the salmonidæ are naturally infected, whether infection is more easily obtained by feeding or by pollution of the water with the bacillus, and, if the latter, whether wounds are necessary, the effect of the temperature of the water on the production and prevalence of the disease.—H. Chick, in a paper illustrated by several diagrams and tables, comes to the conclusion that the action *in vitro* of normal rabbit serum upon B. coli commune consists usually of three or more phases, the duration of which is inversely related to the temperature. The latent period which occurs on first mixing bacteria and serum is followed by a period of bacterial growth, which is followed by a period of bactericidal action. This may be final or may be succeeded by a second period of growth. The germicidal action takes place in accordance with a logarithmic law, so that death rate remains proportional to the concentration of surviving bacteria. The bactericidal action of serum thus falls into line with all other cases of disinfection hitherto investigated.—E. A. Cooper gives an account of some observations on the protective and curative properties of certain food stuffs against polyneuritis induced in birds by a diet of polished rice. His paper is divided into two parts. Part I deals with the quantitative determination of the preventive powers of various common foodstuffs against polyneuritis, and Part II with the fractionation of some of these food stuffs with a view to the isolation of the active constituent or constituents. Lean meat and fish were found to be of little value, but heart muscle and brain were greatly superior. Egg yolk considerably exceeds other foodstuffs in its capacity for preventing the disease. Dried brewers' yeast is possessed of considerable preventive power, nearly as great as that of egg-yolk. The antineuritic constituent of meat is not extracted by water, and only to a small extent by ether. It is readily extracted by alcohol, and after this procedure is easily dissolved in water. From egg yolk it can be easily extracted by both alcohol and ether. It is, therefore, not combined with fat or free lipoids, but is possibly present in the combined lipoids. Strychnine does not cure polyneuritis, but prolongs the lives of pigeons affected with the disease.—W. W. Clemesha criticises Dr. Houston's statement that "the original proportion between the various kinds of bacillus coli may be greatly altered," and that "the method aims at encouraging the typical bacillus coli to multiply and oust the non typical in the struggle for existence in a liquid nutrient medium." The writer has carried out a number of experiments with polluted water, fresh fæces, and mixed and pure laboratory cultures, and shows that there is practically no selective or "enrichment" action in favour of any species of coliform bacilli. He regards 18-20 hours as the best time for incubation in a fluid medium, and states that if this period be adhered to the results obtained give a reasonably accurate picture of the species of intestinal organisms present and their numerical relation to one another. He further discusses the possibility of assigning a definite place to certain varieties of fæcal organisms as a measure of their relative significance as indicators of dangerous pollution by a careful study of their life history.—E. H. Hunt contributes an interesting article on the regulation of the body temperature in extremes of dry heat founded on experience in the Deccan, India. He states that during extremes of dry heat no great discomfort is felt by healthy persons, and fairly hard physical work is possible in the sun, even with a "shade" temperature of 110° F. or more. The amount of water absolutely required, and actually consumed, is very large, and this is accounted for by the necessity for neutralising, in some circumstances, the whole heat metabolism (requiring up to 6000 c.c.), and in addition a variable but sometimes very large amount of heat added to the body by radiation and conduction. A healthy man carries in his body a large reserve of water, this reserve being mainly stored in muscle, and being so readily available that the percentage of water in the blood is not appreciably diminished, even when several litres of water have been lost by sweating. If, however, it be extensively drawn on, replacement seems to occupy many hours, and this delay is an important factor, forming a strong argument against any undue or needless use of stored water owing to a restriction of drinking.—G. Massee describes observations on discoloured spots sometimes present on chilled meats. Only one kind of fungus, Cladosporium herbarum, producing "black spots," is constantly present. The spots occur in the subcutaneous areolar tissue, first appearing as minute scattered points which gradually increase in size up to 1—rarely 2—cm. in diameter and retain a more or less circular outline. The circumference is seen to be fringed with dark coloured radiating hyphæ when examined under a low power lens. When small, the spots are grey, when large, dull black with a tinge of olive green. As a rule the spots are separated from each other by a distance of from 2 to 6 in., but in bad cases are present in groups. The fungus does not penetrate more than 4 mm. into the substratum. The black patches invariably remain dry—that is, there is never any indication of liquefaction or of putrescence set up by the fungus. It does not grow on bones or cartilage. It grows best at low temperatures. The characters and cultures of the fungus are fully described. It is evident that the meat is infected before it is packed. Certain other fungi occasionally forming spots on chilled meat are also mentioned, and the appearances of the infected meat and also of the fungus are shown in two coloured plates.—P. W. Bassett Smith contributes an article on certain points in the diagnosis and treatment of Mediterranean fever. In describing the agglutination method for diagnosis he shows that certain precautions ought to be observed (1) the culture should be proved to be active with known specific blood, and should not agglutinate with other sera, (2) both heated and unheated serum should be tested, (3) the test should be carried to high dilutions, 1/400th or more. In regard to treatment he draws attention to the extended employment of vaccines and yeasts or yeast products. Vaccines should be freshly prepared, and doses of 100 to 500 millions given at five to seven day intervals in the loin. With moderate hectic temperature this method may give excellent results, but is contraindicated when pyrexia is continuous or remittent. For neuritis he has employed yeast in 2 drm. doses, twice daily, apparently with beneficial results.—A. MacConkey describes his method of toxin production from the diphtheria bacillus, and in his first chart gives in the form of a curve the results obtained week by week from September, 1910, to July, 1912. From the point of view of weekly variations the curve only depicts what has been a universal experience, and one for which no explanation is forthcoming. It also shows that there are a rise and fall in the size of the minimum lethal dose during the summer and winter respectively, and the rise and fall are not gradual. At the end of the summer there is a marked increase in the production of toxin, and then the strength of the toxin remains high until about the end of March, when a drop occurs and the toxin production remains low until the autumn. Other charts illustrate the interesting fact that there is a similarity between the curve of toxin production and curves showing the incidence of diphtheria in the human subject. In another paper MacConkey gives the results of observations on the effect of heat (36° C.) on diphtheria toxin. He shows that when serum is kept in small bottles deterioration appears to take place on an average about six times as fast at 36° C. as in the ice chest.—H. Tebbutt describes experiments made in order to ascertain whether pathogenic organisms fed to larvæ can be recovered from the adult fly (M. domestica). He states that B. dysenteriæ (type Y.) cannot be recovered, unless flies have been bred from disinfected ova. B. typhosus was not recovered in a single case. Such organisms as "Bac. A." (Ledingham) could be recovered. He concludes that the possibility of flies becoming infected from the presence of pathogenic organisms in the breeding ground of the larvæ may be considered as very remote.—W. J. Penfold and D. Norris describe experiments on the generation time of bacteria. They conclude that the generation time of B. typhosus in 1 per cent. peptone at 37° C. is 40 minutes. Its rate of growth is greatly influenced by the concentration of peptone. Below 0·2 per cent. the generation time is inversely proportional to the concentration of peptone used. The addition of 0·175 per cent. of glucose to a medium containing only 0·1 per cent. of peptone lowers the generation time by about 50 per cent.

British Journal of Inebriety.—In the January number Dr. Herbert Rhodes writes on the Relation of Alcoholism to Tuberculosis. He prefaces his remarks by the statement that he includes under the term alcoholism all degrees of non-teetotalism, but his references throughout the article appear to be exclusively to cases of pronounced intemperance. The most interesting point brought out in the paper is the difference in this particular relation of alcoholism according to the social and economic conditions of the drinker, drinkers of the outdoor labouring class remaining relatively immune while their dependents suffer from the underfeeding and overcrowding and from the resultant tuberculosis. Dr. Rhodes has taken the views of a number of sanatorium physicians regarding the use of alcohol in phthisis, and candidly admits that he finds a general agreement that small doses are beneficial as a sedative or an appetiser at meals, though he is constrained to add that personally he regards such doses as "damnable in their moral and eventually in their physical effects."—A paper on Alcohol and Modern Life, by Mr. J. Lionel Tayler, being a portion of a popular lecture, gives a clear and, allowing for some slight teetotal exaggeration, a reasonable account of the physiological effects of alcohol and of the social causes and pathological results of excess.—In a brief article entitled, "When is a Man Drunk?" Mr. Norman Porritt has collected a number of remarkable legal, medical, and popular utterances showing the extraordinary confusion of opinion with regard to this question which has been very much before the public of late.—An illustrated article on the Church of England Temperance Society's Homes for Inebriates by the secretary of the society, the Rev. G. A. Thompson, completes the number.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEETING OF COMITIA.

A COMITIA was held on Jan. 30th, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen having passed the required examination were admitted Members of the College: Anthony Feiling, M.B. Camb., L.R.C.P., Nathan Mutch, M.B. Camb., L.R.C.P., Robert Hunter Steen, M.D. Lond., and Francis Martin Rouse Walshe, M.D. Lond.

Licences to practise physic were granted to 98 gentlemen who had passed the necessary examinations.

Diplomas in Public Health were granted jointly with the Royal College of Surgeons of England to the following: Frederick John Ayre, Harold Balme, Jamasp Cursetji Bharucha (Lieutenant, I.M.S.), Elsie Mary Chubb (under the Medical Act, 1876), William Edmund Cooke, Archibald Ferguson, Clifford Allchin Gill (Captain, I.M.S.), Harvey Hilliard, John Edward Hodgson (Major, R.A.M.C.), Herbert Michael Henry Melhuish (Captain, I.M.S.), Alexander Loftus Otway (Captain, R.A.M.C.), and Percy Rose.

The following communications were received: 1. From the Secretary of the Royal College of Surgeons of England, dated Dec. 12th, 1912, and Jan. 10th, 1913, reporting proceedings of the Council of that College on Dec. 12th and Jan. 9th respectively. 2. From the Clerk to the Privy Council, dated Dec. 19th, 1912, enclosing a programme of the Fourth International Congress on Physio-therapeutics to be held at Berlin from March 26th to 30th next, and stating that should the College nominate a representative the Lord President of the Council would ask the Foreign Office to give him credentials as delegate of His Majesty's Government. Dr. A. E. Garrod was nominated as representative of the College. 3. From the Colonial Office, dated Jan. 3rd, 1913, with enclosures, concerning the appointment of some distinguished medical man to represent His Majesty's Government at the Tenth Session of the Australasian Medical Congress to be held at Auckland, Feb. 9th to 14th, 1914. The matter was left in the hands of the officers of the College. 4. From the Home Office, dated Dec. 20th, 1912, asking the opinion of the College on an application from the Liverpool Infirmary for Children for permission to use the prefix "Royal." A favourable reply was returned.

Sir E. Cooper Perry, Dr. F. W. Andrewes, Dr. E. H. Starling, and Sir J. Rose Bradford were elected councillors. Sir Francis H. Champneys [illegible] the College on the Central [illegible] April 1st next.

A discussion on the Insurance Act ensued.

Dr. J. F. POYNTON brought before the College certain difficulties in the position of Fellows of the College who are hospital physicians due to the altered conditions that have arisen with the establishment of the medical panels. He said that these difficulties related to the hospitals and their honorary physicians, to the doctors on the panels, and to the patients themselves. The main difficulty was the matter of [illegible] re suitable for hospital relief [illegible] doctor on the panel; there was some danger of patients being sent to and fro between the hospital and the doctor. It would often be onerous for the physician to out-patients to decide the question, and he was afraid the result would be that the hospital would be blamed for whatever happened. He hoped that the College would keep a sympathetic eye on the difficulties he had mentioned. He thought that the leading article in THE LANCET of Jan. 18th had explained the subject very clearly.

The PRESIDENT observed that the difficulties should be settled locally at the various hospitals. Two committees had already been appointed to consider the circumstances of the Insurance Act.

Sir DYCE DUCKWORTH (the treasurer) placed reliance on the [illegible] pitals, and referred to the plan [illegible] Hospital.

Some further discussion took place, but no resolution was proposed.

Dr. H. SAINSBURY brought forward the following proposition:—

> With reference to the medical working of the Insurance Act now in force, to draw attention to the resolutions passed at a meeting of the Joint Committee on Nov. 13th, 1912, and to urge upon the College the necessity for a further consideration of the present situation with a view to further action. [These resolutions were published in THE LANCET on Dec. 21st, 1912, p. 1742.]

Dr. Sainsbury urged (1) that the majority of doctors were working the Act under [illegible] under a strong sense of injury; [illegible] were temporary and could be adjusted; and (3) that in three months' time some further decision would have to be reached. He hoped that the resolution passed by the College would not remain as mere pious opinions, but that they would be acted upon. The general practitioners were the backbone of the profession, and they had never stood in greater need of guidance than at present. On grounds of freedom of action and development of character, and on the grounds of the interest of the insured, he urged that the College should give the matter its continued attention. He moved the following resolution:—

> [illegible] the Conjoint Committee at th[illegible] the resolution passed on N[illegible].

This was seconded by Dr. F. J. SMITH, who referred to the methods which had been adopted to force medical men to go on the panel, and trusted that the College would be roused to a sense of its responsibilities to the Licentiates.

The resolution was carried.

A report from the Committee of Management, dated Dec. 3rd, 1912, was received and adopted. The report was as follows:—

School, Fulham

laboratory instruc-

n to be added to the

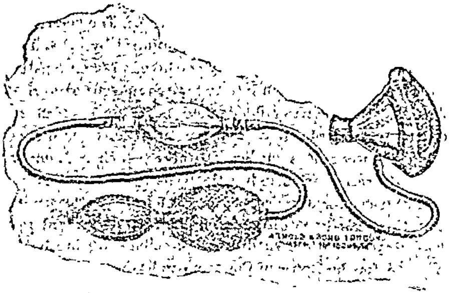
for their Diploma

After some further formal business the PRESIDENT dissolved the Comitia.

New Inventions.

A NEW CHLOROFORM APPARATUS.

I HAVE been using a modification of Junker's method of giving chloroform with the most satisfactory results. As there are no valves to obstruct respiration, no taps to fumble with (often in the middle of the night), no lint or flannel to become damp and impervious, as the strength of the vapour can be regulated and easily measured, and as there is, in addition, a free access of air, almost every possibility of danger is done away with. This apparatus consists of a glass bulb about the size of a duck's egg. There is a tube at either end to connect it with a face-piece on the one hand and a rubber bellows on the other. The exit tube is prolonged into the middle of the bulb and ends in a pinhole aperture. The inlet tube is very similar, so much so that the bulb is in every respect reversible. Two or three drachms of chloroform can be put in at either end and the connexions can be made at either side without the least fear of the liquid escaping to burn the patient's face or to go down the patient's throat, which has caused many accidents with the ordinary Junker. It can be easily demonstrated that each pint of air blown through this bulb carries with it 2 minims of chloroform, no matter what position the bulb is in. In fact, it is like a chronometer which has to keep good time no matter how the ship rolls. There is no necessity whatever to catch the inspirations.



The size of the pinhole in the middle of the bulb is so fixed that a constant flow of vapour can be kept up with a definite strength by a free use of the bellows, and one can leave off blowing for from 10 to 15 seconds without the current ceasing. This

and reduces the use of

I most urgently recon

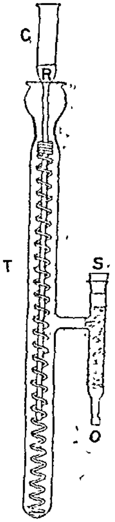
last a life-time. It should have an aperture without valves or obstructions that will allow free respiration and the advent of additional air. For midwifery this method is simple and constant by comparison with the so-called open method, where the vapour is erratic and the materials used may soon become damp and impervious by the expired moisture. It is the primitive methods that have been used in the administration of chloroform that have brought most undeservedly the best of all anæsthetics into disrepute Medical men who propose to use this method should ascertain how much chloroform is abstracted from it by the passage of a measured quantity of air. The illustration will explain the simplicity of this method. A piece of dry Turkey sponge, 1 × 1 × ½ in. in the bulb, absorbs the condensed moisture. With it the vapour is continuously constant at 2 minims of chloroform in each pint of air driven through.

The apparatus is made by Messrs. Arnold and Son, of Giltspur-street, London, E.C.

Harlesden, N.W. ALFRED G. JONES, L.M.S.S.A.

SIMPLE APPARATUS FOR INSERTING RADIUM INTO LENGTHS OF STERILE RUBBER TUBING.

IT is clearly desirable that in hospitals and other institutions using radio-active substances the operator should be protected as far as possible from the deleterious effects of the radiations. This especially applies where it is required to insert a tube of radium, enclosed in its cylindrical metallic filter, into a long length of rubber tubing, preparatory to treating an internal growth. Lengths of tubing, closed at one end and only ·5 mm. thickness in the wall, are specially made for such a purpose, and the usual practice consists in gradually working the radium along the tube with the fingers, probably assisted by a trace of lycopodium powder or French chalk. This is a very tedious process, involving a dangerous exposure to the radiations, and in addition necessitating final sterilisation by fluids or vapours. The following method has therefore been devised in the Physics Laboratory for use in the radio-therapeutic department of the Cancer Hospital with a view to overcoming these objections. The requisite apparatus consists of a glass tube T (see figure) which may be of any convenient length and about five-eighths of an inch in diameter. Its upper end is enlarged to form a cup as shown, and so graduated in width at the neck that the rubber tube R, when slipped over the tapered end of the short glass tube C, shall form an air-tight joint when C is lowered into T (it is shown raised in the diagram). Within the long tube T there stands a nickel wire spiral, the diameter of each turn of which slightly exceeds that of the cylindrical radium filter. The tapered end of C must also be large enough at the opening to allow the filter to pass freely through it. A side tube is also provided. It is plugged at the top by a rubber stopper S, the inside being packed with cotton wool and the lower part drawn out to take a rubber connexion. To prepare the apparatus, the short tube C is removed together with the rubber tubing attached to it, so that the latter may be coiled into a Petri dish and sterilised at 120° C. The tube T must then be plugged with cotton wool, the stopper S removed, and the whole sterilised by hot air at 160° C. When required for use, T is held vertically in a clip stand, the cotton wool plug is removed, and a flame passed once or twice over the mouth of the cup. The rubber tubing is then lifted from the Petri dish and guided by means of sterilised forceps into the upper end of the spiral. When the rubber tubing has been run in, the stopper S is replaced, and O connected to a vacuum pump. A slight exhaustion suffices to expand the rubber tubing till it fills the spiral, so that if the radium in its filter be picked up with forceps and dropped into the tube C it falls at once to the bottom. On allowing air to re-enter T through the cotton wool in the side tube the rubber contracts to its original dimensions and closely fits over the radium filter.



The loaded tubing may now be easily lifted out and the radium applied directly as required. The method is in reality simple and rapid. It has the advantage that the fingers are never in close proximity to the radium, it enables narrower rubber tubing to be used than heretofore, and since the sterilisation is done by dry heat, the use of irritating substances is entirely avoided. The radium may of course be quickly removed from the rubber tubing by replacing it in the tube T, which is then again exhausted as before and inverted.

C. E. S. PHILLIPS, F.R.S.E.

Cancer Hospital, S.W.

may mention those directly influencing the gland itself, so that it is less able to counteract the toxic agent without undergoing hypertrophy; such as puberty, pregnancy, defective hygienic conditions, infective disease, and emotional states. It appears also to be definitely established that an organically impure water favours the development of the disease, and that water containing lime may possibly exert an influence in this direction.

In his endeavours to discover the actual exciting cause of goitre Major McCarrison has paid special attention to water and soil. He refers in some detail to instances on record of waters in various widely distant parts of the world accredited with goitre-producing properties, and then proceeds to record his own observations, which have demonstrated that the residue separated by filtration from the water-supply of Kashrote, one of the most goitre-ridden villages in his district, is capable of producing goitre in man under experimentally controlled conditions usually on about the fifteenth day. Répin and Bircher have recently succeeded independently in producing goitre in rats by giving them water from notoriously goitrous districts. The influence of soil and geological formation has been studied at considerable length, and it is found that although goitre is most commonly associated with limestone and dolomite formations and with marine deposits generally, it can and does occur on almost every other geological formation. It is also shown by Major McCarrison that chemical substances in water, such as lime and magnesium, are not the causal agencies, since goitre is known to occur in districts where rain-water only is drunk. From a consideration of the results of his own experiments with the Kashrote water, including the production of goitre in himself as one of them, Major McCarrison concludes that thyroid enlargement can be experimentally produced in man within a few weeks by the administration of the suspended matter separated by filtration from goitre-producing waters, but that boiling this residue deprives it of this property, and that filtration through a Berkefeld filter probably does the same, since with water so treated he did not succeed in producing goitre within the limits of the 55 days it was employed. It is on the basis of these facts and of a review of the data concerning the etiology of the disease to which we have briefly referred that Major McCarrison rests his contention that the cause of goitre is the presence in suspension in water of a living agent, a view which is supported by the experiments of Bircher on rats carried out subsequently to his own observations. But the soil as well as the water-supply may be a vehicle of contagion of this living excitant, and possibly a direct infection by contact may occur.

Attempts to isolate the supposed living agent have so far failed, but it is shown that goitre-producing waters are pre-eminently those in which micro-organisms can thrive. Although blood changes of a fairly definite character are to be found in goitre, Major McCarrison has to admit that neither he nor other observers have been able to obtain micro-organisms from the thyroid except in acute inflammatory conditions. He brings forward evidence suggesting that the intestinal tract is the seat of infection. The evidence consists in the main of the beneficial effects of intestinal antiseptics, such as salol and thymol, in the treatment of goitre, and the good results obtained with vaccines prepared from organisms which normally occur in the bowel, and from the mixed organisms cultivated on Musgrave's medium from the fæces of goitrous individuals. Major McCarrison has followed up this suggestion by attempting to transmit goitre to animals, notably goats, by infecting their water-supply through the medium of patients suffering from goitre, and has obtained enlargements of the thyroid glands in as many as 50 per cent. of them. The chain of evidence brought forward with such skill by Major McCarrison, though highly suggestive, must be regarded as incomplete until the living causal agent is actually isolated and its pathogenicity established. Meanwhile he is to be congratulated upon the use he has made of his opportunities and upon the success which has apparently attended measures of prevention and treatment based upon his hypothesis as to the causation of the disease. It is to be hoped that he will continue his researches and that other observers will follow up the suggestive lines of research which he has opened out.

Vaccination and the Medical Education of the People.

At the annual dinner of the Association of Public Vaccinators of England and Wales, of which a short note appears in another column, three speakers—viz., the President of the Association (Mr. Arthur Maude), Sir James Crichton-Browne, and Surgeon-General G. J. H. Evatt—in weighty and well-considered words, and approaching the subject along different routes, insisted upon the vast importance of the education of the people in medical truths. It was natural, seeing the occasion of the dinner, that the common text of all speakers should be the dangerous laxity of existing vaccination legislation. The attitude which, with the noble object of giving a greater measure of freedom and initiative to the people, has dictated our recent legislation with regard to vaccination was declared to be reckless in the extreme. But those who have not studied the subject carefully, who are not prepared to sift and deal with the masses of relevant statistics, and who are not fortified by acquaintance with the latest scientific teachings, can hardly be expected to share this disquieting belief. For we are secured to a great extent from epidemic attacks of small-pox by the most efficient public health service in the world, and this security is assisted by a level of domestic decency and of material comfort which, however deplorable the lapses from this level may be in too many localities, is yet far higher than the standard prevalent in most other countries—countries where a sparser population and a less complicated system of commercial enterprise exist. Relying thus on our vast and elaborate system for the maintenance of the public health, we are allowing to accumulate amongst us masses of explosive material from which trails are laid throughout the whole of the country, and of these only one may require a light to cause a disastrous and general conflagration. As long as the outbreaks are small, and as long as the early cases can be swiftly detected, so long can the spread of infection be limited with some approach to certainty, notification and segregation being sufficient for the purpose. So effective are these two measures, taken in conjunction with our fairly satisfactory sanitary conditions at large, that already many beds originally allocated for the treatment of small-pox have been devoted to other purposes by various authorities, and no one can say that this policy is other than economical. But if some of these small explosions, occurring in the centre of a highly inflammable population, should refuse to be stamped out, and the flame should burst through our protective cordons and rush into the general territory beyond, no one can say where the mischief may end.

Here—that is, in the magnitude of the disaster that we may be courting—lies the danger of actively opposing vaccination, and lies also the reproach of those who have too lightly yielded to the fears of unpopularity, or have allowed themselves to remain in ignorance of the facts. The wisdom of systematic vaccination and revaccination depends upon a series of facts which are not comprehended by the people, but which should receive the attention of their leaders and representatives. Many prefer to submitting to vaccination the freedom, as they consider it, of remaining in an inflammable condition. They enjoy a system of protection which is admirable so long as no great danger arises, and they prefer this modified safety to the basic security of making themselves uninflammable. We agree with the protagonists of the Association of Public Vaccinators that the public is not properly informed, and that it has selected its course accordingly. The position requires to be temperately but anxiously placed before the people in a systematic manner; a course of education in vaccination should be attempted, similar to the courses upon eugenics, rearing of infants, and domestic hygiene, which are from time to time announced in our columns. Primarily, that education must come from the medical profession, but secondly, the coöperation of the public is required for the enlightenment of the public. Those members of the public whose advantages in education, and whose development of reasoning power allow them to perceive the danger of the present condition of affairs should be asked to awaken the communities in which they live to this danger. Such assistance from laymen would remove from the educational campaign any suspicion that its teachings emanated only from the medical profession and represented merely an attempt on the part of that profession to maintain a belief founded rather upon tradition than upon circumstances as they are.

The members of the Association of Public Vaccinators, acting here for all medical practitioners and not in any selfish or official spirit, have been, and are, doing their best to disseminate the facts about vaccination. They make known to the best of their ability the position of modern vaccination, showing that while its practice can be supported by masses of unassailable figures, its theory, now that the value of Dr. S. MONCKTON COPEMAN'S labours has been appreciated, is equally unassailable from a scientific point of view. But the Association of Public Vaccinators is not a large or wealthy body, and nothing like a system of popular education can be carried on through its endeavours alone, however devoted. In Germany the work of instruction is done largely by the State, and the German mind finds it completely ridiculous that we in this country—the country where Eastern wisdom in regard to the treatment of small-pox was first turned by Western minds into a practical direction—should be content to leave our inhabitants so ignorant of the facts about vaccination and so free to do as they please that a vast proportion of our population is now not really protected from small-pox.

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Annotations.

"Ne quid nimis."

CONDUCT AND CHARACTER.

THE Birmingham Studies in Social Economics [1] are the outcome of the inquiries of students working for the social study higher diploma or for the higher degrees of that University. The University directs a course of preparation for public and social service which combines systematic instruction with practical training under supervision in the city. The first of these studies is an essay which is considered by Dr. J. Rendel Harris to be more than an academic dissertation; a real contribution to a very pressing problem—that of raising the children of the drunken and dissolute from the place of their degradation to higher planes of social life and worthiness, where it is expected they will when old enough be able to maintain themselves unaided. Miss Thomson attempts to apply the test of statistical experiment to the problem and to find out for us whether environment is able to unsay what heredity has been proclaiming *ore rotundo*. She has studied the records of a few industrial schools and orphanages, and has taken as her standard of efficiency Mr. Charles Booth's classification ("Labour and Life of the People"). This classification passes from Class A, which consists of "some occasional labourers, street sellers, loafers, criminals, and semi-criminals," through C and D, below and upon the poverty line, up to H, "the servant-keeping class." Her chief purpose is to show the overwhelming part played by environment in the building up of human efficiency, and her statistics show that 72 per cent. of rescued children have justified the expectations formed for them, and of the remainder 13 per cent. failed for reasons of mental rather than moral deficiency. It is very encouraging to see such statistics, which, owing to the care expended on the examination of them, may be taken as representing the actual facts. They justify the very general opinion that of all forms of charity that which is directed to the rescue of waifs and strays is fraught with the most fruitful benefit. They also justify our industrial school system when these schools are conducted by kindly and competent people. The author is, however, anxious to claim more for them than merely this, and we would be over ready to allow her claims if we could do so in the purely scientific atmosphere in which our labours are conducted. Just as insanity may be really "disorder of the mind," but, so far as it practically concerns the social body, is undoubtedly "disorder of conduct," so, as Professor F. W. Mott has recently pointed out in his studies of pedigrees, may prudent conduct mask the sense of colour—vermilion and gold running riot throughout it—if we remember our early readings, much concerned with the human voice, yet the old Celtic heroes were as given to the wine-cup as Odin himself. Wine and song, in popular philosophy, have always been twin brothers, despite the silence of Teutonic and Cymric classics. Wine implies excitement, and the true originality of the latest suggestion concerning the singing of birds lies in this that song depends on a lubricant rather than on an intoxicant.

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[1] Environment and Efficiency. By Mary Horner Thomson. With a Preface by J. Rendel Harris, LL.D. (Birmingham Studies in Social Economics, &c.). London: Longmans, Green, and Co. 1912. Pp. 102. Price 2s. net.

INJURY AND PULMONARY TUBERCULOSIS.

A CONNEXION between pulmonary tuberculosis and injury has been asserted by some writers. Mendelssohn has recorded 9 cases and collected 17 others in which injuries to the chest of various kinds were followed by pulmonary tuberculosis. In some hæmoptysis occurred at the time of the injury or soon afterwards; in others cough and pleurisy ensued within a few days or weeks. Mendelssohn's theory is that in such cases the lung is lacerated or contused and becomes infiltrated with blood or inflammatory products. These favour the growth of tubercle bacilli, which he assumes to be more or less ubiquitous. On the other hand, Dr. Percy Kidd believes, in consequence of the rapidity with which pulmonary symptoms appear, that the injury rouses into activity some latent tuberculous focus, possibly by lacerating its capsule. In the *Boston Medical and Surgical Journal* of Jan. 16th Dr. J. W. Hawes, secretary of the Board of Trustees, Massachusetts Hospitals for Consumptives, and Mr. A. Drinkwater, an attorney and a member of the Board, have brought forward some new evidence, and discussed the question from the legal aspect. The legislation of recent years which makes employers liable for the consequences of accidents to their employees gives an additional interest to the question. They first discuss some cases reported by Dr. C. C. MacCorison, superintendent of the North Reading Sanatorium. In 6 cases out of 175 he found that the patients connected their disease with an injury. In one a man was examined at the Massachusetts General Hospital in June, 1910, as a matter of routine, and told that his lungs were perfectly sound. He was in good health and so continued until Feb. 12th, 1911, when he was hit on the chest in a fight and fell unconscious from the blow. A week later the cervical glands swelled rapidly, and in March tuberculosis was found in the lungs. In the other 5 cases there was a considerable interval between the injury and the development of the disease, and therefore the evidence of a connexion is unconvincing. The following case, reported by Dr. Hawes, appears to be a striking example of such a connexion. In October, 1908, while on duty on a motor-cycle, a policeman in excellent health sustained an accident and hurt his right side severely. Immediately he suffered from hæmoptysis, which continued until the next day. For a long time after the accident he had pain in the right side, and he never felt as well as before. He suffered from slight cough and occasional hæmoptysis, and constantly lost weight and strength. However, he continued on duty until March, 1909. From this time until August he was treated by a practitioner who told him that he was not suffering from tuberculosis. However, in August he was examined by three specialists, who found tuberculosis of the right lung. After that the disease rapidly developed. Dr. Hawes was asked to investigate the question whether he should receive a pension based on the fact that his condition was due to the accident while on duty. In view of the fact that medical examination had shown that he was in perfect health previously and was exceptionally strong, Dr. Hawes reported that the disease was directly due to the accident. There is another class of case in which the injury is not to the chest, but to another part of the body. Here the question of a connexion is far more difficult. The following is an example. A married woman, aged 22 years, had been examined many times during minor illnesses by her family doctor and found to have perfectly sound lungs. In September, 1909, while leaving a tramcar, her hand was slammed in the sliding door and severely crushed. She was taken to hospital, where it was found that a miscarriage had taken place. After treatment she returned home. She continued to lose blood off and on for two months and did not regain her usual health. In January, 1910, she developed a cough, and in March was found to be suffering from pulmonary tuberculosis. In an action for damages Dr. Hawes gave evidence to the effect that the tuberculosis was directly connected with the accident. The jury awarded damages, and the Supreme Court upheld this verdict. Recently the Supreme Court of Minnesota gave damages for the injured persons following circumstances. A robust man, aged 43 years, in perfect health, according to good medical evidence, received a severe injury to the head. There was considerable shock and concussion for which he was confined to hospital for a month. He steadily lost health and strength, and soon developed consumption, from which he died eight months later. For the defence it was argued that men of robust health are often attacked by consumption. The Court, however, decided that the evidence was sufficient to sustain a finding that the injuries sustained were the proximate cause of death.

THE TREATMENT OF DISSEMINATED SCLEROSIS WITH INJECTIONS OF FIBROLYSIN.

DISSEMINATED sclerosis, one of the very commonest diseases of the central nervous system, is at present enshrouded in obscurity as far as its exact etiology is concerned, and the chapter of its rational therapeutics, therefore, still remains to be written. As a consequence, innumerable medicaments have been and are being tried in this affection, but the specific, if there is one, has not yet been discovered. During the last five years Dr. Nonne, of Hamburg, has used injections of fibrolysin in a large number of cases with satisfactory results, but his endeavours do not appear to have aroused much interest either by way of criticism or corroboration. One of his assistants, Dr. Max Fraenkel, has published in the *Neurologisches Centralblatt* for January some account of his experiences with this drug in 75 cases of disseminated sclerosis, taken partly from Dr. Nonne's private and partly from his hospital practice. Merck's ampulles each contain 2·3 c.c. of fibrolysin, which is a combination of thiosinamine and sodium salicylate; this amount was injected into the gluteal region every three or four days for six weeks at a time. Of the 75 cases, 54 were hospital patients and 21 private. Of the former, 19, and of the latter 14, were uninfluenced by the treatment; 15 showed a certain amount of improvement, estimated by actual improvement in the physical and objective signs of the affection, and not merely by the patients declaring themselves better and stronger. In no less than 27, however, the results obtained were apparently very satisfactory, inasmuch as various objective symptoms and signs entirely disappeared. In several cases a return of certain symptoms was met by resorting to the treatment again, with notable improvement almost immediately. Dr. Fraenkel says that the injections can be carried out over a much longer period than six weeks without difficulty or danger. Whether there is a relation of cause and effect between the injections of fibrolysin and the subsequent improvement is, of course, not to be lightly decided, for it is notorious that many cases of the disease show remarkable remissions, while in others very long intervals elapse between the appearance of the various symptoms Further, the effect of fibrolysin on other morbid conditions (cicatrices, contractures, fibrosis, and strictures) is not clear, and even assuming the reality of its action on fibrous tissue we do not know that it possesses a similar action on glial tissue

GASTRIC SYMPTOMS DUE TO COLONIC STASIS

THE doctrine that serious symptoms may follow chronic stasis of the contents of the colon is well known in this country, mainly through the stalwart advocacy of Mr W Arbuthnot Lane while it is held widely in America An interesting case is reported in the letter from our Paris correspondent in which severe gastric symptoms were present and were thought to be due to a gastric ulcer, for there was vomiting and pain supervened two or three hours after a meal An X ray examination showed that a bismuth meal stayed for two or three days in the cæcum To remedy this condition an ileosigmoidostomy was done but the symptoms were not relieved A subsequent colectomy, however, was followed by rapid recovery Few will be found to dispute that in some cases there is a very definite connexion between gastric symptoms and colonic stasis and the case recorded from Paris proves that the removal of the colonic stasis may be followed by restoration to health Opinions, of course, differ widely as to the proportion of cases in which it is necessary to perform an ileosigmoidostomy or to resect a portion of the large intestine for obstinate constipation It seems at present wiser to keep to the *via media* but such earnest attention is now being paid to the subject that in time we shall be able to recognise with far greater certainty in what cases operative interference is desirable

THE BACTERIOLOGY OF PERITONITIS

IN the *American Journal of the Medical Sciences* for October, 1912 Dr Morris Fishbein has published an important paper on the bacteriology of peritonitis based on bacteriological examination of material obtained from the peritoneal cavity after death in cases of peritonitis at the Rush Medical College Chicago, and on previous work on the subject by two American writers—Flexner and Minihan Dr Fishbein follows the classification of Flexner, who divides all cases of peritonitis into primary, exogenous and endogenous Primary peritonitis is due to previous chronic diseases or to an infectious focus in some other part of the body, from which the infecting organism is brought by the blood or lymph channels to the peritoneum Exogenous peritonitis is due to infection from wounds of the peritoneum, including laparotomy, or to septic abortion Endogenous peritonitis is due to organisms coming from foci in relation to the peritoneal cavity, of which the most common is appendicitis The nature of the inflammation—whether serous fibrinous, purulent, or of other type—does not bear any relation to the nature of the primary lesion when such exists nor does it seem to be influenced by the kind of bacteria present, whether alone or in combinations of various kinds Adding together his own cases and those of the two previous writers Dr Fishbein has analysed 342 cases The organism most frequently found was the colon bacillus which was present in 183 cases and in 54 of these in pure culture, but in the majority of cases in combination with other organisms, such as staphylococci and streptococci The other organisms were found in the following order of frequency streptococcus, 143 cases, staphylococcus, 83; pneumococcus, 37, bacillus mucosus, 15, gas bacillus, 11, typhoid bacillus, 9, bacillus proteus, 9, bacillus pyocyaneus, 8, bacillus cloacæ, 3; micrococcus tetragenes, 2, bacillus lactis aerogenes, 1, bacillus paratyphosus, 1 In none of the cases was the gonococcus found The pneumococcus seemed to be particularly associated with primary peritonitis The typhoid bacillus was found both in cases in which there was perforation of the intestine and in which there was not The cases in which there was no perforation may have been examples of primary peritonitis The majority of cases of peritonitis were endogenous and due to a combination of the colon bacillus and other organisms, usually staphylococci and streptococci With perfecting of aseptic operative technique exogenous peritonitis is becoming less common In 25 per cent of Dr Fishbein's cases the peritonitis was primary In practically all the resistance of the patient was lowered by some chronic condition such as atrophic cirrhosis of the liver, chronic endocarditis and tonsillitis, marasmus or diabetes In such condition the peritoneum fails to combat organisms brought to it by the blood stream In other conditions, as when a suppurative focus exists in some other part of the body, as in acutely infected tonsils or an infected puerperal uterus highly virulent organisms are poured into the blood and a terminal acute infection of the peritoneum occurs To such causes the " idiopathic " peritonitis of the older writers is to be referred

TEACHING, LEARNING, AND LIFE[1]

Edward Thring the great headmaster of Uppingham School, has now been dead a quarter of a century, but the spirit of his teaching still survives, not only in the memories of those who came into actual contact with him, but in much of the work constructional and theoretical, dealing with the education of this country He was an extraordinarily simple single minded man determined to refound his old grammar school on the lines which he thought right and to carry it on along those lines through good or ill report He had sore troubles and not a few opponents, as every such enthusiast must have He trampled on what he thought were idle prejudices he did not mince words; occasionally he administered a justice whose roughness was more apparent than its purity but the nobility of his motives the courage of his actions and his readiness to sacrifice all for his ideals were alike so obvious that he won support and admiration and following in the places where, if only where, he valued it To medical men there is one episode in his career that should always appeal When a severe epidemic of typhoid fever fell upon the school in its little Rutlandshire home, Thring acting with the directness with which nowadays a military force would be ordered to evacuate an infected camp mobilised his great school, the inhabitants of 12 boarding houses with a concourse of dependants, masters servants, and attendants, and placed them within three weeks in a Welsh fishing village And a few hours after the reassembly of the school, with the coöperation of a brave and sorely harried staff, he had invented a system of discipline so exactly suited to the new conditions while founded on the old, that work and games alike went on with unbroken serenity. Thring's strenuous life of work and thought left little time for leisurely literary production, but he wrote two small books on education, setting out his reasons for his theories and practice, and published a volume of addresses and another of sermons Many of his letters were published in an interesting but sorely belated biography, while he left behind him an unpublished manuscript entitled "Education and Idolatry" From this material H and M P, with the sanction of the surviving family, have selected certain passages illustrative of the nature of Thring's counsels The work has been judiciously and piously done, while many of the pregnant sentences quoted should inspire the reader to consult the originals from which they have been taken. Says Thring, for example: "I do not mind whether things go entirely right or not. Nothing goes entirely right. Any fool can find fault. And road-makers cannot be so clean as those who walk on the roads they have made." Was ever the position of the mere critic compared in a happier way with that of the inventor, with, be it noticed, no undue laudation of the latter? This little book is full of similar aphorisms.

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[1] Thoughts from the Writings of Edward Thring, collected and arranged by H and M T London H R Allenson Limited Racquet court, Fleet street E C Pp 67

THE GERMICIDAL PROPERTIES OF TOBACCO SMOKE.

IT is not surprising to learn that tobacco smoke is inimical to the activity of micro-organisms, since it contains, amongst many other things, pyridin, which has been shown to be a powerful germicide. Definite experiments have recently been made which show that tobacco smoke rapidly destroys in particular the comma bacillus of cholera. *A good many years ago it was reported by the senior* medical officer of Greenwich workhouse that the tobacco-smoking inmates enjoyed comparative immunity from epidemics, and tobacco-smoking was believed to have had a disinfectant action in cases of cholera and other infectious diseases. Again, during a cholera epidemic at Hamburg it was reported that not a single workman engaged in the cigar factory in that city was attacked by the disease. Later it was stated that amongst a body of 5000 cigarmakers only 8 cases and 4 deaths from cholera occurred. Subsequent experiments proved that tobacco smoke destroyed the bacilli of Asiatic cholera as well as pneumonia, and there was some evidence also that tobacco smoke was preventive of some forms of nasal catarrh. It is interesting to note that pyridin is official in the French pharmacopœia, and in France it has been employed in the form of inhalation in asthma, emphysema, and angina pectoris, and mixed with peppermint in diphtheria. Excessive tobacco-smoking, of course, may easily give rise to constitutional effects which diminish the resisting power of the body to disease, in which case it is probable the habit would afford not only no protection but an opening for invasion.

ADRENAL HYPERNEPHROMA IN A YOUNG GIRL, WITH PRECOCIOUS DEVELOPMENT OF SEXUAL CHARACTERISTICS.

IN the recently issued annual volume of *Guy's Hospital Reports* is a brief paper by Dr. Herbert French on a rare condition, of which up to the present less than 20 cases have been recorded, where a tumour of the suprarenal cortex has been associated with abnormal development of the external genitalia and the characteristics of sex. Dr. French's patient was a little girl of 6½ years, who was admitted to Guy's Hospital on August 18th, 1910. She had always been a very healthy child, except that since she was 12 months old she had been subject to periodic attacks of vomiting several times a year, attacks which were gradually becoming more intense. In this little girl pubic hair began to develop when she was eight months old, and it increased in amount steadily for some years. There was none in the axillæ or on the face. For six months before admission she complained of pain in the left side of the body. She was found to be a healthy looking child, bright and intelligent, not unduly fat, with undeveloped breasts, but with a remarkable development of pubic hair and with an equally remarkable hypertrophy of the clitoris, which projected between the labia and separated them to a notable extent. A relatively large tumour was felt with ease in the left side of the abdomen, moving up and down with respiration, smooth and free from nodules, but very tender on the slightest pressure. It extended almost to the mid-line, above the umbilicus, and reached from the left hypochondrium into the left flank. There were definite indications that the tumour growth was compressing the lower lobe of the left lung. On Sept. 1st the little patient was operated on, and the mass was found to be a suprarenal tumour which almost completely surrounded the left kidney, making it impossible to remove one without the other. The suprarenal tumour was of a curious yellow ochre colour, very vascular and very soft. Although it was creeping down all over the capsule of the kidney, it did not invade the latter in any way. The kidney itself looked perfectly normal. The child died a few days later, when numerous secondary deposits, all yellow ochre in colour and varying in size from small dots to growths half an inch in diameter, were found scattered through the lungs. The uterus and ovaries were perfectly normal. Sections of the growth showed columns of large polyhedral cells, mostly arranged in a perivascular fashion. It may be described as a perithelioma of mesoblastic origin rather than a carcinoma.

KERATODERMIA BLENNORRHAGICA.

Dr. H. Swift, of Adelaide, has given an account of a cas of gonorrhœal keratodermia, the first recorded in Australi as far as he is aware, in the *Australasian Medical Gazett* of Nov. 30th, 1912. It is an extremely rare condition. Th first example recorded in England was a patient of D J. H. Sequeira, brought before the Royal Society Medicine in March of last year. Dr. Swift's patient was man, aged 35, who was admitted to hospital sufferi from gonorrhœa with polyarthritis for the second time i six years. On the dorsu of each foot were a few discre pustulous spots one-third to three-quarters of an in in diameter; in the most recent the outer margin the area of cuticle involved was raised very slightly a thin layer of cloudy serum. The centre was yellow, conve and raised, being in the process of becoming hardene Later, the cuticular rim became broken, the centre bein raised into a clear horn-like projection. Later still th centre became opaque, having an appearance not unlike tha of a rupial crust. In their subsequent course these pustul areas displayed the tendency to incrustation in a ve marked degree, and they also increased in size centr fugally. Fresh pustules produced on the shins and els where by extrinsic causes took on similar keratot characters. Attempts at discovering the gonococcus i the discharge from these cutaneous lesions proved abortive and treatment by injection of stock gonococcus vaccine was quite futile. The patient's urethritis was, howeve very persistent, and the condition conforms in all essential to that described by other dermatologists as occurring i connexion with severe and generalised gonococcal infec tions. Treatment is usually unsatisfactory, though in on case, that recorded by Dr. Sequeira, the use of gonococca vaccines proved highly effective in inducing a cure. Dr Swift remarks on one curious point, the offensive smell o the patient's skin. This was so extreme that the man ha to be isolated, and local applications of formaldehyde wer necessary in order to mitigate the odour.

A DISCUSSION on Ventrifixation of the Uterus has bee arranged to take place on Thursday, March 6th, in th Obstetrical and Gynæcological Section of the Royal Societ of Medicine. The subject will be divided into three parts (1) Indications for the Operation, to be opened by Dr. W. S. A. Griffith; (2) Varying Technique of the Operation to be opened by Professor Henry Briggs (Liverpool); and (3) Clinical Results of the Operation, to be opened by Dr.

A E Giles Anyone desiring to take part in the discussion should forward his or her name to one of the honorary secretaries, Dr Walter Tate, 32, Queen Anne street, W, or Dr T Watts Eden, 26, Queen Anne street, W, not later than Saturday, March 1st

STILLBIRTHS IN RELATION TO INFANTILE MORTALITY

The Report of the Special Committee of the Royal Statistical Society on Infant Mortality

IN a recent number of THE LANCET[1] the appearance was announced of a remarkable report on infantile mortality, prepared by a special committee of the Royal Statistical Society

For the first time in our experience the subject of mortality in early life is there discussed with reference to every important country in Europe and America That the problem had never previously been treated with equal success, even in our own country, should imply no censure on modern medicine, for it is only very recently that means have been available for estimating the influence of stillbirths on mortality in early childhood, for which purpose facilities are now afforded under the Notification of Births Act Again, the gradual and conspicuous advancement in every branch of sanitary knowledge must assuredly contribute to the greater accuracy of statistical returns The special committee entrusted with the preparation of this report consisted of Sir William Dunbar, Sir Shirley Murphy, Dr R Dudfield, and Dr J H C Stevenson On its publication in the preceding August it was known that the inquiry was incomplete, the belief being current that further developments would probably be announced at no distant date

Discussion on the Report

The discussion on this report, which is summarised in the present article, was opened at the Statistical Society's rooms by Dr Reginald Dudfield on Nov 19th at the request of the council, who rightly judged that his experience as chairman of the special committee eminently fitted him for the task It is due to Dr Dudfield to state that, in addition to the ordinary duties of the chair, he undertook the whole of the correspondence, colonial and foreign as well as British on the result of which the report was eventually framed Of the magnitude of this task an idea may be formed from the fact that forms of inquiry were forwarded to the statistical authorities of not fewer than 136 States, and that replies have been received, tabulated and analysed, from 106 of that number[2]

In all inquiries of this nature the importance of accurate definition is obviously paramount, but in the present case it is astonishing that the committee were unable to discover among the returns furnished by the colonial and foreign authorities evidence of the adoption in any country of a real definition either of "stillbirths" or of "stillborn", the few authorities that have made the attempt having formulated expressions which lack the essentials of precise definition In these circumstances the committee, whilst considering it inadvisable to adopt any one of the definitions before them, declared it to be imperative that an international definition of stillbirths should be authorised and that all stillbirths should be registered They further incorporated in their report a memorandum prepared by Dr Dudfield, containing his personal suggestions with regard to the definition of the terms "stillbirth" and "stillborn," the committee adding the opinion that "those suggestions may serve as a useful base for future discussions"

Having perused the report and also Dr Dudfield's comments thereupon, we think that he acted discreetly in confining himself almost ent
relation of stillbirths to
abundant material for many
been drawn from the same source

The Question of Definition

Reverting to the question of definition—the only part of the report that has provoked criticism—Dr Dudfield said that when attempt is made to express in scientific language the condition popularly known as "stillbirth"—i e, the birth of a dead child—a difficulty is encountered as to the connotation of the several words "child" "birth," "dead," each of which requires some form of definition or descriptive paraphrase With reference to the exact meaning of the word "child," he inquires whether it is to be understood as applying to every product of pregnancy without regard to duration, or whether it should be limited to a fœtus which has attained a development that will enable it to maintain an existence apart from the maternal structures Questions of this kind obviously involve important points of law as well as of medicine Accordingly, Dr Dudfield quotes legal authority[3] for the statement that "life" begins as soon as an infant is able to stir in the mother's womb The first movement or "quickening" takes place in the fourth month of gestation, but the fixing a date for the beginning of "life" does not prevent unauthorised induction of abortion at an earlier date from ranking as criminal On the other hand, the physician relies mainly on auscultation of the fœtal heart sounds for evidence of life in utero For reasons specified in the text Dr Dudfield holds it preferable to date fœtal life from the time when the heart sounds become audible The middle of the seventh month of pregnancy is the period when a child is generally regarded as viable, and it is important to note that the Notification of Births Act does not require intimation of the birth of a dead child occurring before the twenty eighth week of pregnancy

In common parlance a child is held to be "dead" when it shows no signs of life But the question of what physical or other functions are to be taken as signs of life remains undetermined According to present legal practice a child is deemed to have "lived" when it has been proved to have breathed or cried after birth On the other hand medical experience shows that sometimes a liveborn child dies without making any respiratory effort We agree with Dr Dudfield in thinking that some test other than respiration should be adopted to distinguish live from still-born children

Suggested Definitions of "Stillbirth"

For the foregoing and other specified reasons the following conclusions are arrived at (1) That the term stillbirth should be limited to the product of gestation which has lasted for not less than 28 weeks, (2) that a birth is "complete" at the moment when the whole of the body of the child—"body" including trunk, head, and limbs—is outside the body of the mother, and (3) that the crucial test of "life" should be the continuance of the action of the child's heart

With the object of arriving at a definition which should be precise and simple, and at the same time suitable for international use Dr Dudfield applied to the council of the Obstetrical Section of the Royal Society of Medicine for an authoritative definition of the term "stillbirth" In response, he received from the honorary secretary of the section the following amended definition, which has been approved by the council of the section —

A stillborn child means a child which measures more than 13 inches

Respecting this definition Dr Dudfield observes that it is in close agreement with one whi
the only difference being the inc
and "breathing" which he had
note to the definition relegates such signs of life to their proper position, and practically reduces the proposed definition to the terms originally suggested except for the substitution of the length of the child's body as the test of the duration of pregnancy—a substitution which he personally approves

With reference to the registration of stillbirths Dr Dudfield remarks that the replies received from abroad to the question whether these are registered as births as deaths, or as both reveal a marvellous variety of practice For the study of ante natal causes producing stillbirths it is necessary that the latter should be regarded as deaths, and a medical certificate of cause of death should be invariably insisted on. Once the cause is known, it should not be beyond human ingenuity to suggest the remedies. In this way Dr. Dudfield believes it possible to reduce infantile mortality to limits considerably below what can be reached by present methods. By such means he thinks that the present shortage of new lives resulting from the lower birth-rate will be amply compensated.

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[1] THE LANCET Oct 26th 1912 p 1169

[2] Journal of the Royal Statistical Society December, 1912 pp 1 27, and pp 46 et seq.

[3] Blackstone 9 h edition, I p 129

Discussion of Proposed Definitions.

Most of an enteresting discussion has hovered round the definitions already suggested. Dr. Major Greenwood, recognising the difficulty of arriving at an exact definition of "stillbirth," hesitated to characterise the heart beat as the basal sign of life; indeed, he doubted whether any one basal sign of life existed. Taking the matter as a practical one, he suggested the question whether if the beating of the heart were considered the ultimate criterion, an appreciable number of children would be saved who, by the breathing and crying test, would be regarded as born dead. He thought that a much wider statement, not of the natuie of a definition, was, on the whole, safer and calculated to avoid the introduction of a provision which might not be effective in the case of untrained persons.

Dr. Amand Routh, commenting on the general meaning of the term "stillbirth," thought that it should include abortions as well as children born after the viable age of 28 weeks. From the view-point of preventing deaths in both periods of intra-uterine life, he thought it desirable to secure notification not only after, but also, if possible, before the age of viability. In addition to being compulsorily registered, they should also be included among the livebirths and the deaths. He expressed the opinion that most of the children who died in utero before the commencement of labour perished during the last few days of gestation, and that if the causes of such deaths could be determined many lives might be saved by inducing labour before the time of the probable fœtal death.

Dr. Walter Griffith communicated to the meeting some of the reasons why the council of the Obstetrical Section recommended the definition before them. They held that what was needed was a definition as accurate as possible, but sufficiently simple, so that it could be applied by anyone present at the birth, and by registrars and lawyers as well as by medical men. Such definition must be a compromise between utility and scientific accuracy. The length of the child was taken as the indication of its sufficient development, because anyone with a tape measure could measure the baby with accuracy. The alternative in common use was to speak of so many months or weeks of development, but it was not always possible to ascertain accurately the duration of gestation. With regard to the definition as a whole, he preferred that recommended by the Obstetrical Section to the amended one of Dr. Dudfield.

Dr. Butler, addressing himself to the question of evidence of livebirth, concurred in the view that a sign easily observable should be taken as crucial, and thought it convenient to take obvious signs like respiration, because this was a new function established at the birth, whilst circulation went on previous to birth and merely continued afterwards. It was because an arbitrary standard was necessary, and because the establishment of breathing was readily ascertainable, that it was desirable to continue the existing practice of assuming independent life only after the establishment of that function.

The discussion summarised above was a valuable contribution to the important subject dealt with in the report.

SIR SQUIRE BANCROFT'S READINGS.—Sir Squire Bancroft, whose readings in aid of hospitals were interrupted by ill-health last winter, now proposes to bring them to a close and to give a farewell "reading" of Dickens's "Christmas Carol," to complete as his gift to hospitals by this means the sum of £20,000. Sir Squire Bancroft's first public reading was in aid of the Middlesex Hospital, and he will give the final one in London for the same great charity in which he has long been interested, having served on the weekly board for 25 years. The reading will take place on the afternoon of Tuesday, March 11th, at the St. James's Theatre, which has kindly been lent for the purpose by Sir George Alexander.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Hampshire County Council.—Dr. R. A. Lyster's well-considered and well-presented report deals with a school population of 52,700 and a total of 47,985 examinations and re-examinations. In the three years 1909–1911 there have been at least 80,000 examinations apart from those required by the code, and a very large proportion of all the children in the schools have now been inspected. Dr. Lyster emphasises the point that in relation to statistics the "really important figures are those relating to amelioration." Such a mass of statistics has now been accumulated as to make it desirable to minimise this side of the work as much as possible with a view to the larger expenditure of energy in more practical and hygienically profitable ways. The schools in Hampshire are divided into the two groups of urban and rural. The urban children show a preponderance of defects. Since the last year's report was issued with remarks concerning the superiority of clogs over ordinary boots, clogs have been adopted in many parts of the county. The progress of the work generally is shown to be very satisfactory, opposition from parents may be said to have practically disappeared; many of the boards of guardians have requested reports upon boarded-out children, and in some instances a member of the board attends at the time of inspection *in loco parentis*. Dr. Lyster urges that breathing lessons should be carried out every morning and afternoon, and that open-air teaching should be much extended. Some interesting pages deal with amelioration and the position of boards of guardians in relation to treatment of school children is considered at length. The report closes with a paragraph suggesting the advisability of the withdrawal of the system of payment of grants for attendance made by the Board of Education.

Bradford City Council.—It is pleasant to notice that a large part of the report of Dr. Lewis Williams is taken up with the consideration of ameliorative measures. The reports of the school clinic, of the school dentist, and of the open air school take up a large share of space, while another substantial section treats of methods of dealing with tuberculosis among school children, and recommends a schoo sanatorium for 50 children with accommodation for the teaching of another 100 non-resident selected cases. The provision of an open-air day school for 180 pre-tuberculou and early tuberculous children is also advocated. Th report includes a section devoted to the results of the inspection of secondary schools. Here the most notable fac which has been brought to light is the startling number of girls who suffer from spinal curvature, over 14 per cent. of the scholars in attendance being affected. A large majority of the cases are found curable by means of suitable remedial exercises. The school clinic has dealt with 7719 children needing treatment: 5064 received treatment and 1710 were referred elsewhere, while 945 were examined on account of scarlet fever or diphtheria before their return to school. The attendance was 1000 in excess of that for 1910. The total number of attendances made by children at the clinic for treatment and for examination was 20,325.

Salop County Council.—Dr. James Wheatley's report for 1911 lays stress on the preventive side of school inspection work, and expresses the view that the greatest result will be the decrease of dental caries. The report also emphasises the extreme importance of physical exercises in improving the health of children. The number of schools dealt with is 279, comprising 340 departments The children on the register numbered 32 491 in February and 33,086 in November, and during the year 7117 children were completely examined, of whom 1340 (18·8 per cent.) required medical attention. A greater percentage of defects was found in town as compared with country schools. There was also noted an excess of measles in town schools, but not of whooping-cough. The percentage of all children suffering from measles before the end of school life was 77·1 males and 79·8 females, 10 per cent. have scarlet fever, and 3 per cent. diphtheria. Both the latter are more prevalent in town than in country schools. The excess of defects is particularly well marked in eye cases; in town schools the percentage is 15·7 of children examined and in country

schools 10 5 The difference is ascribed to the conditions of town life, and among these the earlier age at which town children begin school, the lesser opportunity for outdoor life and the greater opportunity for reading It is suggested that one of the causal factors in the development of *adenoids is almost constant exposure to infection in* schools A useful leaflet for distribution has been dr wn
up dealing with mouth breath
exercises, this is reproduced
mine the influence of mouth-breathing on the production of dental caries, no marked correlation is observed Much valuable matter on other possible causes of dental caries is *included, and a leaflet with directions for the avoidance of* caries is reproduced Apart from a subscription of £76, and the provision of letters of recommendation for the Eye, Ear, and Throat Hospital for Shropshire and Wales, the education authority does not help financially in
children Only 41 9 per cent of th
1911 had treatment, but this is a
in 1910

Cheshire County Council —The county of Cheshire is divided for medical inspection purposes into East, West and Mid Cheshire In these divisions 18,968, 20,769, and 20,057 children are in average attendance In recording the percentage of dental defects, one of the three inspectors notes only 18 children out of 6970 as requiring treatment The explanation is that the medical inspector concerned only issues notices to parents if the caries is accompanied by oral sepsis or sequelæ thereof And, speaking of the causes of caries, Dr Meredith Young considers it "a matter for regret that the quill toothpick has been banned by society" In Mid Cheshire only 1 in every 760 children showed any signs of having had conservative dental treatment The report contains the result of a valuable investigation into the cases of 84 mentally defective children by Dr A M Pryce, classified and analysed under 28 headings, also the *tabulated family history of 28 cases by the school medical* officer The medical inspector for West Cheshire (Dr G A Jubb) records the results of the examination of 78 dull, 25 backward, and 10 mentally defective children, and gives in diagram form two illustrative pedigrees Four school nurses are employed and the part-time services of 71 district nurses are also made use of, and the arrangements for "following up" cases have
in securing the treatment of 80 88 per ce
coloured diagram gives these facts in graphic fo m,
and another summarises the reasons for the non treatment of the cases left over Of these, poverty alone accounts for a is
illuminated by ng
the masses of on
dealing with infectious diseases there is an account of an epidemic of jaundice Twenty six cases occurred, and particulars are also given of another epidemic in which the majority of the cases were attended by Mr G A Paulin of Malpas, who gives an account of the symptoms The illness begins like an ordinary catarrhal jaundice, but the whole family is usually affected The initial symptoms are seldom severe, not always vomiting, usually constipation, pigmentation all over body, not deep, urine bile stained Patients are never very ill unless jaundice is suppressed *The illness takes about two to three weeks to* disappear

Notts County Council —Dr Henry Handford s report deals with a school population of 48,104 the inspection being carried out by the medical officer two inspectors, and five nurses 11 035 children were fully examined and of 786 children needing immediate treatment only 325, or 41 3 per *cent, succeeded in obtaining it*
school clinics Dr Handford urg
teaching of cleanliness "by examp
"models of cleanliness and sanitation And an important suggestion is that the function of school nurse should be combined with that of health visitor, visitor under the Notification of Births Act, and health visitor in cases of tuberculosis "Each nurse would then have a small district
the people and would get
necessary for mental alert-
spinal curvature it is noted
that spinal disease is very rare among elementary school children This is a complete contrast to the experience in the Bradford secondary schools to which allusion has just been made

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose
middle of this year is estimated
2 births and 5906 deaths were
ended Saturday, Feb 1st The annual rate of mortality in these towns, which had been 15 4, 16 5 and 17 0 per 1000 in the three preceding weeks, further rose to 17 2 per 1000 in the week under notice During the first five weeks of the current quarter the mean annual death rate in these towns averaged 16 4, or 0 5 per 1000 below the average rate recorded in London during the same period The death rates last
k in the several towns ranged from 4·9 in Devonport,
in Ilford and in Southampton, 10 0 in Ealing, 10 3 in
thport, and 10·5 in Wallasey, to 25·0 in Darlington, 25 6 in Barnsley, 25 9 in Wakefield and in Rotherham, 26 8 in Aberdare, and 31 5 in St Helens

The 5906 deaths from all causes in the 96 towns were 87 in excess of the number in the previous week, and included 430 which were referred to the principal epidemic diseases, against 526 and 505 in the two preceding weeks Of these 430 deaths, 205 resulted from measles, 66 from whooping-cough, 65 from infantile diarrhœal diseases, 62 from diphtheria, 17 from scarlet fever and 15 from enteric fever, but not one from small-pox The mean annual death rate from these diseases last week was equal to 1·3, against 1 5 per 1000 in each of the four preceding weeks The deaths attributed to measles, which had been 268, 277, and 275 in the three preceding weeks declined to 205 last week, and caused the highest annual death rates of 2 9 in Bootle, 3 2 in Barrow in Furness, 3 4 in Acton 6 8 in St Helens, and 6 9 in Wigan The deaths referred to whooping cough which had increased from 55 to 81 in the three preceding weeks fell to 66 last week and included 20 in London 10 in Liverpool, 3 in Nottingham, and 3 in Manchester The fatal cases of diarrhœa and enteritis (among children under 2 years of age), which had been 72, 87, and 67 in the three preceding weeks were 65 last week, 18 deaths were registered in London, 8 in
Birmingham 3 in Stoke on Trent and
The deaths attributed to diphtheria,
which had fallen from 64 to 47 in the three preceding weeks rose to 62 last week, 6 deaths occurred in London, 5 in Walthamstow, 5 in Bradford, 4 each in Portsmouth, in Birmingham, and in Manchester, and 3 each in Liverpool, in Sunderland, in Newcastle on Tyne, and in Rhondda The deaths referred to scarlet fever, which had been 32 25 and 19 in the three preceding weeks, further declined to 17 last week and included 4 in Birmingham 2 in London, and 2 in Aberdare Of the 15 fatal cases of enteric fever, which were equal to the average in the four preceding weeks, 4 were registered in London

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospitals, which had steadily declined from 2112 to 1784 in the five preceding weeks, had further fallen to 1738 on Saturday last, 209 new cases were admitted to these institutions during the week, against 202 204, and 215 in the three preceding weeks These hospitals also contained on Saturday last 931 cases of diphtheria, 789 of measles 292 of whooping cough, and 40 of enteric fever, but not one of small pox The 1610 deaths from all causes in London were 67 in excess of the number in the previous week,
al to an annual death rate of 18 6 per 1000
ferred to diseases of the respiratory system,
dily increased from 285 to 393 in the six pre-
ceding weeks, further rose to 447 last week, and were 53 above the number registered in the corresponding week of last year

Of the 5906 deaths from all causes in the 96 towns last week 160 resulted from various forms of violence and 413 were the subject of coroners' inquests The causes of 51, or 0 9 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death were duly certified last week in London and in its 14 suburban districts in Sheffield, Leeds, Bristol, Bradford Hull, Nottingham, and in 55 other smaller towns The 51 uncertified causes of death last

Attached to Units other than Medical Units.—Lieutenant Percy T. Tolputt to be Captain (dated Dec. 18th, 1912).

The undermentioned officers resign their commissions:—Captain Daniel O. Kerr and Lieutenant Alfred I. Shepheard-Walwyn (dated Feb. 5th, 1913).

PLAGUE PREVENTION IN KIAOCHAU.

In the *Archiv für Schiffs- und Tropen-Hygiene* for December, 1912, Dr. Uthemann, Surgeon-General of the German Navy, in medical charge at Kiaochau during the plague period in 1911, publishes an account, written in May, 1911, of the preventive measures taken at that time. Like all regulations, they were effective chiefly because they were very accurately carried out by a zealous and attentive staff; but Dr. Uthemann is of opinion that their usefulness is vouched for by the fact that no case of plague did occur in the capital Tsingtau, and he does not think the regulations could be materially improved. As any invasion by plague would have seriously damaged the trade of Tsingtau it was decided to keep the disease at all costs at a distance, rather than to arrange to deal effectively with cases as they arose. Accordingly, the whole frontier of the protectorate was policed, and the boundaries of the city protected by a barbed wire fence with a guard of apparently 300 men; the coast was patrolled by guard boats, and lighted at night by searchlight. In the wire fence were two openings, one only for admission, and near it a market where the buyers and sellers were separated by two wire fences 5 feet apart. As for the railway, a quarantine station was established at Syfang, where all passengers left the train and were examined and then kept under observation five days (many cases were found of typhus, typhoid, small-pox, and relapsing fevers). Responsible people who could be trusted were allowed to proceed and report themselves daily for five days to the police. If quarantined they were examined twice daily, and if without means were fed as well as housed. Quarantine of seven days was imposed on ships; that was, it is thought, a little long. The disease was so infectious, and in Manchuria destroyed so many doctors, attendants, and gravediggers, that it was necessary to protect the eyes with motor goggles, the mouth and nose with a cotton-wool mask, and to wear a hooded suit like that of the Mizericordia in Florence, with gauntlets and long boots. When leaving the ward the physician or attendant was sprayed with sublimate solution, his suit brushed with that to destroy any adherent germs; then he took the suit off and dropped it into more lotion, and so, having protected himself and others, he could go free.

Correspondence.

"Audi alteram partem."

THE DOSE OF VERONAL.

To the Editor of THE LANCET.

SIR,—The question has recently been raised as to the amount of veronal which may be taken without fatal results, and the following case may therefore be of interest Mr. ——, aged 20, was under treatment on account of recurrent attacks of vomiting, associated with a dilated stomach, and he had a very poor appetite. These attacks of vomiting had been present for many years past from time to time, and his appendix had been removed some two months previously. On Jan. 14th, 1908, he had returned home to the country extremely exhausted, and had had a hot bath in the afternoon and afterwards fell asleep. Towards night he complained of intense vertical headache and took tabloids of veronal at frequent intervals with the object of relieving it. He took altogether 56 grains. When seen the next morning by Dr. Crawley and Dr. Woollerton they found that he was suffering from some kind of poisoning, but they were at first uncertain as to its nature. The pupils were widely dilated, but reacted slightly; the knee-jerks and plantar reflexes were present, and he was in a semi-conscious condition. He was very ataxic, and did not recognise people; he was wandering in his talk, and slept the greater part of the day. He was almost pulseless, his heart's action was extremely feeble and intermitted at times and was rapid. On the 16th he was better, but was still drowsy and semi-conscious. He was very ataxic, and when he attempted to walk he staggered about and had to be supported. During the night he was seized with four epileptiform convulsions, but did not foam at the mouth. He was rigid; there were no tonic contractions. After these attacks he was very much exhausted; but on the 17th he was better, sitting up in bed and talking, and taking an interest in what was going on. He had, however, another slight convulsion in the morning, in which there was twitching, and his respirations were rapid, about 50. He complained of cardiac pain, and was very violent. He then passed into a condition of exhaustion in a semi-drowsy state. He was quite on the *qui vive* at the slightest noise, and wanted to know to what it was due; but he had no recollection of his attacks during the night, and he felt as if he was dying. On examination nothing abnormal could be made out. He was perspiring freely, the pupils were of medium size, and the tongue was clean. On the 18th he had two fits, and is said to have been amblyopic for a short time. There were no further symptoms, and he gradually recovered. I am, Sir, yours faithfully,

Portland-place, W., Jan. 29th, 1913. G. NEWTON PITT.

PROGERIA AND ATELEIOSIS.

To the Editor of THE LANCET.

SIR,—In his article with the above heading in the last number of THE LANCET, Professor Arthur Keith hopes that the publicity given to these remarkable disorders may result in the recognition of further cases, and that thereby additional light may be thrown upon their nature.

As I have devoted a good deal of attention to these two morbid conditions, I hope I may be permitted to emphasise his request. Indeed, it is difficult to over-estimate the importance of getting all the information about them that can be obtained. No one can read Professor Keith's searching comparison between acromegaly, progeria, and ateleiosis without being convinced of their intimate relationship, and in some measure realising the importance of the careful research which he is giving to them. They are not only interesting for their own sakes, but even more interesting because of the light their study may be expected to throw upon the nature of other disorders. It can scarcely be an exaggeration to say that anyone who gives an adequate explanation of their pathology unlocks the door to a complete understanding of the processes of normal growth and development, as well as of many diseases which are now among the enigmas of medicine. As we read Professor Keith's article, and bear in mind the work that is being done by others in the same field, we seem to be on the verge of discoveries which in course of time will place growth and development as much under our control as is the case with the initiation of offspring or the nutrition of the body. The importance of knowledge of this sort, in these days of the progressive weakening of the influences which make for the physical evolution of civilised man, can hardly be gainsaid. It is fortunate that there should now be a representative skeleton of each of the three disorders in the Museum of the Royal College of Surgeons of England. Evidently Professor Keith inclines to the view that the seat of the morbid state is in each case to be traced to some alteration in quantity or quality of the secretion of the pituitary gland. In this respect his opinion nearly coincides with that which has been formed by Cushing as expressed in his important book, "The Pituitary Body and its Disorders." But striking as is the evidence now being accumulated in favour of the pituitary origin of these maladies, much yet remains to be done before their pathology can be regarded as settled. It is still possible that the disease of the pituitary is either terminal or reciprocal and not primary. To suggest that five such striking, or even hideous, diseases as gigantism, progeria, acromegaly, Froehlich's combination, and ateleiosis are all of pituitary origin is to throw a heavy burden of responsibility upon one very small gland. And though this can hardly be regarded as an argument against the pituitary hypothesis, it must add to the *onus probandi* of those who adopt that view. On the other hand, the theory that the pituitary disorder is incidental, not essential, has at least the merit of priority. Whatever the explanation may be, the difficulties which surround the subject can only be overcome by further knowledge, and it is greatly to be hoped that Professor Keith's demonstration may result in the discovery of hitherto undetected examples of progeria and ateleiosis. I am, Sir, yours faithfully,

Reading, Feb. 1st, 1913. HASTINGS GILFORD.

THE PATHOGENICITY AND VIRULENCE OF BACTERIA.

To the Editor of THE LANCET.

SIR,—In a letter appearing in your issue of Feb. 1st Dr. E. C. Hort and Dr. W. J. Penfold drew attention to the importance of their work on temperature variations in animals produced by the injection of substances suspended in water. At the same time they criticised some of our recently published work, and wasted a lot of pity on us and numerous other workers in the same field. We might mention that at the time of our experiments we were fully alive to their work, and anticipating their criticism took full precautions to guard ourselves against error. The main points of their criticism are the use of guinea-pigs and the method of obtaining the water used.

With regard to the former, we found in our preliminary work that guinea-pigs that had become accustomed to the laboratory and which were kept with a constant supply of food maintained a very constant temperature, of course, having the normal diurnal variations. We drew no conclusions from single observations of rises within the ordinary limits. With regard to the other part of the criticism, the experiments on protein and bacterial fever are all in series, and the same amount of vehicle was used in each case as in Friedberger's experiments, and so at any rate the series are comparative, the same (?) error occurring throughout. Dr. Hort and Dr. Penfold's experiments are also capable of another interpretation, which we drew attention to at a meeting of the Pathological Section of the Royal Society of Medicine. Further, we should like to know the amount of calcium obtainable from a Pasteur Chamberland filter, which is made of aluminium silicate, by a water containing practically no carbon dioxide.

We are, Sir, yours faithfully,
F. H. THIELE,
DENNIS EMBLETON.
Weymouth street, W., Feb. 1st, 1913.

ARTIFICIAL RESPIRATION.

To the Editor of THE LANCET.

SIR,—If Dr. Leonard Hill will read the verse before the ones he quotes from 2 Kings iv. he will find that Elisha was alone with the child. The account of the miracle must therefore have come from Elisha, for the child could hardly have described what took place. If Elisha had blown into the child's mouth, surely he would have said so. The account does not say that the child began to breathe, but that "the flesh of the child waxed warm." The narrator evidently thought that the child was restored by some transference of vital force, and, as he was also the practitioner, I do not see how we can read anything else into the story. I much doubt if artificial respiration is consistent with the views of physiology held by Elisha, and I do not think he would like the practice to be associated with his name.

I am, Sir, yours faithfully,
Silverton, Devon, Feb. 4th, 1913. O. CLAYTON-JONES.

To the Editor of THE LANCET.

SIR,—Dr. Leonard Hill asks in THE LANCET of Feb. 1st, in referring to Elisha raising the Shunammite's son (2 Kings iv. 34), why is not this, the best method of restoring a child, called Elisha's method of artificial respiration? I would suggest in reply that it has not been so called because it has been included amongst the number of the miracles performed by Elijah. Verse 32 states: "And when Elisha was come into the house, behold, the child was dead, and laid upon his bed." This is confirmed by 2 Kings viii. 5, where Gehazi, the servant of Elisha, is relating the miracle to the King, "And it came to pass, as he was telling the king how he had restored a dead body *to life,*" &c. *Bible commentators have suggested that Elisha* so stretched himself upon the child in order probably to afford a channel for the Divine influence to pass. But to put the consideration of this aside for a moment, it is probable that in any case the "method" should be credited to Elisha's predecessor, Elijah, for in 1 Kings xvii. 21, Elijah, in raising the son of the widow of Zarephath, "stretched himself upon the child three times, and cried unto the Lord, and said, O Lord my God, I pray thee, let this child's soul come into him again."

I am, Sir, yours faithfully,
Feb. 3rd, 1913. SEARCHER.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—At the annual general meeting of the National Medical Union, held on Jan. 28th last, it was resolved to convert the Union into a permanent organisation for medical men who decline service under the National Insurance Act as at present constituted. There is no other association at present which is definitely pledged to serve the interests of such men, or which might be of use as a rallying point for those who retire from service in the future.

Amongst the objects at which the Union is aiming are the following: 1. The bringing together of all those whose convictions have led them to remain in opposition to the present Act. 2. Mutual assistance amongst members all over the country. 3. The guarding of the interests of the members in every possible way. 4. To endeavour to uphold the honour and interests of the profession, which have been—and still are—gravely imperilled by recent events. 5. To secure efficient medical attendance for the industrial classes at reasonable remuneration.

It is hoped that all medical men who are in sympathy with the aims and objects of the Union will see their way to becoming members. The annual subscription is 10*s.* 6*d.*

I am, Sir, *yours faithfully,*
J. WEBSTER WATTS, Secretary.
5, John Dalton-street, Manchester, Feb. 4th, 1913.

To the Editor of THE LANCET.

SIR,—As there has been some misunderstanding about the *validity or non-validity of medical certificates* issued by non-panel doctors to insured persons, I have brought the matter before the Commissioners, who have sent me the following courteous reply:—

National Health Insurance Commission (England).

[illegible]

I am, Sir, your obedient servant,
(Signed) E. HACKFORTH.
The General Secretary, Medical Defence Union.

The profession will, I am sure, be glad to know what is the actual position in this respect.

I am, Sir, yours faithfully,
A. G. BATEMAN, General Secretary.
Medical Defence Union, Trafalgar-square, W.C., Feb. 4th, 1913.

To the Editor of THE LANCET.

SIR,—There has been a question of ethics before the profession, and it has by common consent been referred to the British Medical Association, acting formally through their Representatives. The decision is that anyone who after Jan. 18th joined the panel, or before that date, whether acting according to his own judgment, or induced or "coerced" by force of circumstances or other influence, is to be regarded as having acted rightly. There can, I take it, be no other meaning.

1. It was stated in my hearing that a member of a hospital staff who had joined the panel had been requested by his colleagues to give up his hospital appointment. 2. Enclosed are handbills circulated in Kensington. As my name appeared on the panel at the post offices, they refer to me, as well as to others some of whom may still be members of the Association. The intention is evidently to injure, professionally and pecuniarily, those whom the Association has justified. In serious matters relating to professional conduct we were wont to look to the *Royal College of Physicians* of London. This seems a situation calling for their interference.—I am, Sir, yours faithfully,

GEORGE C. CRICHTON, M.D. Edin.
Longridge-road, S.W., Feb. 4th, 1913.

SANITATION AT SEA.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Continued from p. 339.)

THE NEW FRENCH LAW AND THE NEW FRENCH SHIPS.

The One-class Boats.

THE new category of passengers that has come into existence is increasing rapidly now that a new class of ships has been built for their accommodation. These are the second-class passengers travelling on ships where there is no first-class. This is a natural development, since wealthy people constitute only a very small minority of the populations concerned. Far more numerous is the great professional and middle class—persons of good education and good social standing, but possessing only moderate means. When they need to cross the Atlantic they feel it humiliating to be railed off and kept in the after part of the ship, even though the second-class accommodation may be good; indeed, in some of the newest and largest Atlantic liners it is better in many ways than the first-class accommodation of a few years ago. In some of the German ships care is taken to make it impossible for the first-class passengers to see their second-class neighbours. Nevertheless, it is but natural to prefer the best part of the ship, and formerly the second-class traveller could enjoy this advantage only if he went by a cattle boat, where provision was made amidships for a few passengers at inexpensive rates. Such a prospect was not satisfactory, however, for the class of travellers that has recently come to the front. They need something similar in character to the first-class saloon passage, but less luxurious, and therefore less expensive. Thus expenditure in coal might be reduced, for they would be content with a slow boat, while the greater the speed, the more violent the shaking and the shocks received from high seas. After all, what does it matter if the journey takes two or three days longer. When there is every necessary comfort a holiday may be enjoyed as well on board as on shore. So long as the cabins are clean and cosy, it is as easy to sleep in a berth of enamelled iron as in one of highly polished and rare wood. Neither are costly silk furnishings and ornately carved and gilded ceilings necessary; good taste is not necessarily costly. On the other hand, travellers of this class are just as anxious about drainage and ventilation as are any saloon passengers. Knowledge of hygiene is a matter not of wealth but of education, and medical men and school teachers are better educated as a class than men who have made fortunes in business. Again, the former class can dispense with an orchestra at meal-times and for concerts. Nor do they require extravagant articles of diet, such as fruit out of season, or game, or caviare. But they do want a skilful *chef* and good food served without stint. And further, they want to drink the ordinary wines, white and red, which to-day are so cheap, and a cup of black coffee to round off their meals with, without extra charge. They need ample space on deck, a comfortable lounge, and a smoking-room or *café*—in fact, every facility for social intercourse and such games as can be enjoyed on board. All this is just what the Compagnie Générale Transatlantique attempted to supply when it constructed the *Chicago* and the *Rochambeau.*

The New Crowd.

As the demand for this sort of accommodation was met, so has it increased. For the moment it is essentially an American and French development. If we exclude those who travel on business, there is more to tempt Americans to Europe than Europeans to America. Further, it is especially the well-educated and well-read American who longs to visit Europe. Prominent among this class are the members of the medical and the teaching professions. Till recently many have been debarred from visiting Europe because they could not afford the first-class or saloon fares, with their incidental expenses, and did not care to occupy an inferior position as a second-class passenger. But in these new boats such passengers occupy the first position in absolutely the best part of the ship. In the fast liners the minimum saloon first-class fare varies from £18 to £25, while in the one-class boats the minimum fare, with privilege of the entire ship, is £11 on the *Chicago*, £12 on the *Rochambeau*, the maximum fare not exceeding £14. The result is that young medical practitioners, who most need the education of travel but whose income as yet is inadequate for the expensive saloon fares, are now coming over freely. The principal difficulty is—and this applies more especially to teachers and professors—that the latter can absent themselves only in the summer; consequently the ships are then apt to be unpleasantly crowded. Thus I found last November that no less than 400 berths had already been retained for the sailings announced to take place next June. The rush to Europe is from the last ship in May to the first ship in July, and the returning crowd sails from August 15th to Oct. 15th. At those periods every berth is occupied, wherefore the general sanitation, and especially the ventilation, of these ships becomes a matter of prime importance. As at least half the passengers who profit by this opportunity are connected with education, the ships sailing at this season are now known as *les bateaux scolaires*, or the school ships.

The Good Effects likely to Ensue.

There is also another cause of travel which may develop considerably. In New York especially the summer weather the excessive damp heat, is very trying. Many business men who cannot afford to leave their offices, nevertheless endeavou to send their wives and families to the mountains or the seaside during the worst months. But this is extremely costly, and many can ill afford the outlay. On the other hand in the less frequented parts of Germany, France, or th Ardennes good board and lodging can be obtained for 4*s.* a day especially if a contract is made for a large party. Moreover a substantial saving can be realised by the purchase of clothes in Europe instead of in America—I am not talking abou shopping in the Rue de la Paix or in Bond-street. Finally, a the Atlantic can now be crossed with all necessary comfor for a reasonable sum, the New York business man of moderat means finds it actually cheaper for his wife and family t spend the summer in Europe than at an American watering place. The one-class cabin, as this service is sometime called, is such a success that many more ships of the sam sort are likely to be built; and as this cannot be done fas enough, some of the first-class ships—*La Touraine* for exampl —have been converted into the one-class cabin, that is second class, style of ship. This evolution will be fraught with man consequences. In Europe we shall have an opportunity o making wider acquaintance with the American people, and th unpleasant impression produced by some of the vulgar ric will, in a measure, be counteracted by the welcome presence o the less wealthy members of the intellectual class. In th same way, as the latter class of visitors is naturally bette able to observe, appreciate, and to learn, it will carry bac to America those impressions that tend to forward th interests of civilisation at large. All these consideration while bearing on a multitude of questions, clearly show tha there will be in the near future a great augmentation o Atlantic passenger traffic, so that the sanitation of ship acquires increasing importance.

Experiments with Thermotanks.

It was in the spring of 1908 that the *Chicago* made he maiden trip. She is a ship of 11,105 tons and 9500 horse power, and can accommodate 314 second-class and 114 third-class, or steerage, passengers. The crew numbers i all 231 men. To provide healthy quarters for 1700 person in one single structure, even on land, is no easy matter, and at sea the difficulties become intensified. Of more recen construction than the *Provence*, the *Chicago* and th *Rochambeau* are better ventilated. They do not depend only on the extracting power of ventilating fans. The *Chicag* has 15 thermotanks, which are generally employed t pump warmed air into the cabins. The total electric force required to move the fans of these thermotanks is equal t 62 brake-horse-power, and they are supposed to delive 3,850,000 cubic feet of air per hour. The pressure of steam for heating is equal to 37 lb. per square inch, and the temperature 230° F. Experiments have been made as to the heating powers of these thermotanks. Thermotank No. 1 is credited with delivering 255,000 cubic feet per hour. Its air trunk is 64 feet long and supplies two decks. When the outside temperature was 52 F. the temperature in the forecastle was 104° F., in the emigrants' quarters 96° F., and in the hospital, on the lower deck, 100° F. But with thermotank No. 2 going down three decks, while the air at the start was 114° F., it had fallen to 86° F. at the farthest point of an air trunk of 70 feet in length. The longest air trunk is 100 feet, and it may be said that from the thermotank the heated air loses about 20 per cent. of its heat before it reaches the farthest end of the air trunk. Therefore those who like heat should get cabins as near as possible to their thermotank. But if these cabins become overheated and the inlet is closed, then there would be more warm air delivered in the cabins that are not so hot because they are farther off. Indeed, the passengers themselves, by watching the temperature of their cabins and controlling the inlets, might very materially help to assure a more even distribution of heat.

The Impossibility of Automatic Ventilation.

It was on Dec. 14th last that I sailed homewards on the *Chicago*, and during the journey had many conversations with the chief engineer about all these difficulties. It was mid-winter, just when the Atlantic was troubled by a succession of exceptionally severe storms. Everything that could be closed had to be fastened as tightly as possible to keep out the tempestuous waters. There was very little opportunity for natural ventilation, except for the great air shafts that abut on the upper deck by the funnels and feed the engine-room and stokehole. It is not the storms, however, but the rapid changes of temperature that render the heating and ventilating matters of such great difficulty. The chief engineer said that the ship passed from the Polar current, where the water was at 34° F., to the Gulf stream, where the water was at 73° F., in the space of not more than an hour. Automatic regulators only followed a change of temperature, turning heat off or on. What was necessary was to anticipate such sudden changes of temperature so as to obviate their effects. This, he said, could be met only by a very watchful and intelligent staff. The passenger did not complain until some time after he had been suffering; this could be prevented only by commencing to cool the ship before the hot stream was reached, and to heat it before it penetrated the Polar stream. No system of ventilation would work by itself; it required forethought, watchfulness, and experienced guidance.

In the Cabins.

On visiting the different parts of the ship I was much impressed by the forecastle. Here the effect of the recent legislation was distinctly visible. Each sailor had more space for his berth; 123 cubic feet is the legal minimum. Then there must be an inlet and an outlet for the air, together with proper means of warming as well as of ventilating. Here we had a thermotank just the same as that supplied to the most luxurious state-rooms. Consequently, the air was sweet and there was an appearance of comfort and brightness which constituted a great improvement on what I have too often seen on old-fashioned ships. The numerous hospitals on board were well supplied with natural and artificial light, and there was plenty of space. There are hospitals for women and for men, for infectious cases, for persons under observation, a pharmacy, and an operating-room. On visiting the steerage and the third-class cabins I found that the remarks I made in my last communication in regard to the *Provence* apply equally to the *Chicago*. As for the state cabins, an air-shaft goes through them all, and the passengers can open wide or partially the louvred inlet by which they receive air, warmed in cold weather, from the thermotank. Near the ceiling and the floor there are apertures, so that the air from the cabins finds its way into the passages, where more or less natural ventilation carries it out. If the full complement of four persons sleep in these cabins they must be somewhat cramped for space. But this rarely happens, and on the *Rochambeau* the cabins are larger. Cabins should be a little longer than the beds, so that at the end there may be space for hanging up clothes, for little handbags, or for some small drawers. To pull a heavy cabin trunk from under the berth for every little trifle wanted during the voyage is somewhat trying, especially if the weather is so rough that the trunks have to be lashed in their places to prevent their being thrown across the cabin.

Art of the Chef: Hygiene of the Kitchen.

Of course, I did not fail to visit the *chef*. All the officers on board were particularly proud of their culinary colleague and felt how much the success of the French line depended on the choice of its *chefs*. At the time of my visit the ship's [illegible]

His bookshelf was well filled: there was a culinary *encyclopædia*, and among many other books quite a large volume devoted solely to the cooking of eggs. In answer to my questions, the *chef* explained that when he was employed by a British company he was not allowed to cook as he thought proper, for the English passengers could not appreciate delicate flavouring. One of the best dishes he ever made, a specially prepared *pâté*, was too tasty for the saloon passengers, and the greater part had to be eaten in the kitchen and by the crew. Judging from my experience on the *Chicago*, it seems that *gourmets* will have to travel on second-class boats to find the operators who know their trade. On these one-cabin boats there is compulsory dining. The passengers are not given the opportunity to feed badly, as in the first-class saloon. They are not allowed to order tasteless dishes and to eat them in the wrong order. Nor are they allowed to eat too quickly. Meals—lunch of four courses and dinner of five courses, properly ordered, flavoured, and artistically cooked—are served in due order, at very cheap prices. Further, though we had a fierce storm lasting three days and were pitched about unmercifully, I noticed comparatively little seasickness. Finally, I must add that the kitchen is well-ventilated and constantly cleaned out. The cooks have the necessary facilities for washing and keeping themselves clean, and my observation showed that they availed themselves of these sanitary advantages. Such are some of the reasons which assure the growing success of this new phase of ocean travel. But while it increases the frequency of inter-oceanic intercourse, it also augments the responsibilities of those who control the sanitation of the floating towns that now so frequently cross the broad and turbulent expanse of the Atlantic.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

National Medical Union a Permanent Organisation.

THE annual general meeting of the National Medical Union was held in Manchester on Jan. 28th, Mr. William Coates presiding. Mr. F. H. Westmacott introduced a motion, which was seconded by Dr. J. Brassey Brierley, proposing that as a temporary organisation the union should cease to exist, and that it should be reformed into a permanent organisation of men who decline to allow their names to appear on the Insurance Act lists or panels, and who refuse to work the Act until the conditions of service are acceptable and conformable to the honour and dignity of the profession. It was felt that it was necessary to have a union to support non-panel men and to be a rallying point for those who might retire from service of the Act at any time. The motion was carried. The following rider was added to meet the case of men who, it was reported, intend shortly to retire from the panels:—

[illegible]

A Bishop on the Insurance Act and the Medical Profession.

The Bishop of Manchester, speaking at Manchester Cathedral on Sunday night, paid a tribute to the medical profession. He said that so strong is the faith that the causes of disease are not beyond our control, that he did not hesitate to say that if a physician were given an opportunity to choose between the power of working miracles as our Lord did and the power of discovering, for instance, the cause of cancer, he would undoubtedly choose the latter. The Bishop expressed his opinion of the attitude of the doctors to the Insurance Act in the following terms:—

> It has appeared to some people as though the whole grievance has been a dispute over sixpence; but, so far as I can judge, they have desired only to secure that the work under the Act shall be thorough [illegible] poor should be regarded as
> the same careful attention [illegible]
> intended strongly that their [illegible]
> the judgment of people who [illegible]
> really fighting the battle of [illegible]

the poor, and they deserve the gratitude of the nation for the endeavour which they have made to secure the conditions under which medical service in the end should be a reality and not a sham. This, at all events, has been my impression of the controversy, and, in justice to the profession, I feel bound to record it.

Hospitals and dispensaries will continue to be necessary—at least for the worst and most needy cases. For the present, at all events, the Insurance Act has not diminished the work of the hospitals; they will still need to be supported. They will still afford an opportunity of bringing charity and science, love and knowledge, in touch with one another and with the poor.

Feb. 4th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Changes at the University and at the School of Tropical Medicine.

Dr. J. W. W. Stephens has been appointed to the Alfred Jones chair of tropical medicine, vacant through the resignation of Sir Ronald Ross. Dr. Stephens has been connected with the Liverpool School of Tropical Medicine for the past ten years. During the last few years he has held the Walter Myers memorial lectureship. He graduated as M.D. at the University of Cambridge in 1898, and at one time held the John Lucas Walker studentship of pathology at that University. In 1897 he was appointed assistant bacteriologist to the Government of India, and was subsequently made a member of the Royal Society's Malaria Commission in Africa and India. He has taken an active part in the teaching work of the Liverpool School of Tropical Medicine, and has published much valuable research work upon tropical diseases. Dr. George Lissant Cox, assistant lecturer in pathology at the University, has been appointed chief tuberculosis officer for the county of Lancaster. Dr. Cox was an ardent worker in the Thompson Yates laboratory. He served for three years on the staff of the Liverpool Consumption Hospital, so that he is well equipped for the duties of his new post. The departures from Liverpool of Sir Ronald Ross, Professor F. G. Donnan, and Dr. Lissant Cox will create a blank in local medical circles not easily filled.

The late Dr. William Carter.

Dr. William Carter, who died on Feb. 2nd after a short illness, retired from practice about five years ago, when he removed to Deganwy. Dr. Carter's connexion with the honorary staff of the Royal Southern Hospital extended over 30 years, and he was for a long time a leading figure in the medical world of this city.

Feb. 4th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Presentations to Sir Thomas Chavasse.

ON Jan. 30th the board and staff of the General Hospital and other friends expressed their appreciation of the able manner in which Sir Thomas Chavasse has performed his duties as honorary surgeon for the past 30 years, by the presentation of a three-quarter length portrait of himself in oils to be hung in the board-room of the hospital; of another of her husband to Lady Chavasse; and of an illuminated address to Sir Thomas Chavasse. The Lord Mayor, Lieutenant-Colonel Martineau, presided over a large company. Mr. J. B. Clarke, chairman of the presentation committee, in presenting the portrait, which was executed by Mr. A. T. Nowell, to be hung in the board-room, said they desired to do honour to a most worthy Birmingham citizen, the possessor of a good old family name well known and highly revered in the Midlands. They all deplored his absence as the result of an accident in the hunting field and wished him a speedy recovery. After studying in Edinburgh, Birmingham, Dublin, Vienna, and Berlin, he became assistant surgeon to the hospital in 1877, and in 1881 was elected a full surgeon, and so remained for 31 years. No one outside the walls of the hospital could have an adequate idea of the magnitude and scope, the self-denial, the anxiety, courage, patience, industry, and skill required for the post. If the governors could not have Sir Thomas Chavasse with them in that room they were determined to have the best reminder they could of him and his noble work. The portrait, which represents Sir Thomas Chavasse wearing the gown of a Fellow of the Royal
[illegible] en unveiled, and accepted
[illegible] . Sir John Holder next pr
to Lady Chavasse a portrait, the gift of the 171 subscr
the fund. He remarked that they were also indebte
Thomas Chavasse for having inspired that great bene
to Birmingham, Miss Ryland, a near relative to Lady Ch
to bequeath £25,000 to the hospital. He was also
mental in obtaining other large donations, and himse
£1250 for the endowment of a bed. Mr. Gilbert
next asked the Lord Mayor to present an illuminated
to Mr. Arthur Chavasse on behalf of his father.

The Death of Lord Ilkeston.

Although Lord Ilkeston for some years had ceas
actively engaged in medical practice in Birmingham,
a very well-known figure in the city, and had been co
physician to the General Hospital since 1890. He fir
to Birmingham at the age of 20 to take up the appoi
of medical tutor at Queen's College and assistant p
at the Queen's Hospital, and in 1868 he transfer
services to the General Hospital, where he was ma
physician. He took a very active part in local
organisation, which prepared the way for the great
played afterwards in the British Medical Associati
also served his apprenticeship to politics in th
council in the early Chamberlain days. He will al
remembered as a great Birmingham citizen. His s
succeeds to the title, is stipendiary magistrate to the

Feb. 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irvine Chair of Bacteriology.

THE trust funds accumulated in accordance with
of the late Mr. Robert Irvine have now reached the
£30,000. The income from £25,000 of this is to be
salary for a Robert Irvine professor of bacteriolog
University of Edinburgh, and the remainder of this
ment is to be employed for the equipment of class-ro
laboratories in connexion with the new chair.

Edinburgh Medical Committee.

A meeting of the medical profession in Edinbu
held on Jan. 29th at the Society of Arts Hall, an
decided that a local Medical Committee should be a
to watch over medical interests in connexion with t
ing of the National Insurance Act, and to advise
Edinburgh Insurance Committee upon medical questio
meeting then elected a committee consisting both o
tioners upon the panel and of those who are no
application is to be made to the Scottish Insuran
missioners for recognition of this body in accordan
the terms of the Act.

Memorial to the late Dr. G. A. Gibson.

A meeting was held last week at the Royal Co
Physicians of Edinburgh, under the chairmanship
President, Dr. J. J. Graham Brown, to consider the
tion of a memorial to the late Dr. G. A. Gibson.
decided, upon the proposal of Dr. Byrom Bramwell, se
by Mr. J. W. B. Hodsdon, that a memorial should be f
and a committee for this purpose was appointed.

Dr. G. A. Gibson and the University of St. Andr

The University Court of St. Andrews have record
deep regret at the death of their former co
Dr. George Alexander Gibson, and their sense
great loss caused thereby to science, medicin
Scottish culture. "They recognise," says the
of the meeting, "how great was his distinc
a physician, an original investigator, and a
and accomplished writer on many branches of
cine. They recall with thankfulness his valuab
vices as a member of University Court, and the c
kindness, courage, and courtesy which he showed in
relations of life They grieve over the bereavement
widow and family, and direct that a copy of this mi
sent to them as an expression of sympathy."

Aberdeen Eye Institution.

At the annual meeting of subscribers to this ins
the report of the directors drew attention once ag
the unsatisfactory state of the accounts, althou

expenditure had been cut down to the minimum, representing only 2s 2d per case treated (including 2197 operations, and the cost of keeping 53 in-patients with an average stay in the institution of 30 days each). Dr. A R. Galloway in his report stated that workmen treated minor eye injuries far too lightly, frequently using dirty instruments—such as pins—for the removal of foreign bodies, and they often continued work after receiving an injury These were the cases which resulted in septic ulcers, with frequent impairment and sometimes loss of vision The large fall in the number of school children affected—1387 for the previous 12 months—led him to hope that school inspection was having a desirable effect. The report further stated that there were about 1700 men employed as stonecutters in Aberdeen and district One out of every two received medical aid for eye injuries every year, and out of a total of 809 eye injuries to stonecutters in Aberdeen during one year 645 were treated at the institution Principal George Adam Smith acknowledged the very great benefits which the University derived from the institution In doing so, he recalled that the institution owed its origin in a large measure to the University itself, having been founded in 1835 by two eminent University men, Sir James McGregor and Dr Cadenhead

Gray's Hospital, Elgin, and the National Insurance Act

At a meeting of the Elgin town council held on Jan 27th the matter of a resolution of the managers of Dr Gray's Hospital, Elgin, in connexion with insured persons was discussed It was stated that the funds for the erection of the hospital were left by Dr Gray in 1807 for the express purpose of treating the sick poor of Elgin The resolution of the managers of the institution recently published in the newspapers seemed to stultify this aim, and the following *resolution on the matter was adopted by the meeting after* some discussion —

> The council, in view of the intimation that the trustees and managers of Dr Gray's Hospital had passed a resolution that no insured persons under the Insurance Act will be entitled to receive treatment at the hospital except in cases of emergency, unless an arrangement is made for payment to the managers of the hospital of £2 2s per week as an indoor patient or £1 1s per week as an outdoor patient, and considering that under *Dr Gray's* settlement the town council had power to inspect the hospital and state to the trustees and [illegible] may observe resolve to remit to the law [illegible] orsyth added thereto, to consider the [illegible] the trustees and managers and if so [illegible] to them to have their resolution withdrawn or at least amended

A great deal of feeling has been aroused in the town of Elgin over this matter

Feb 4th

IRELAND.

(FROM OUR OWN CORRESPONDENTS)

Evidence of Sickness for the Sickness Benefit

IN the Civil Service Supplementary Estimates for the year ending March 31st next a grant of £50,000 is provided for the Irish National Health Insurance Fund towards the cost of medical certificates of sickness and other administrative expenses arising out of the absence of medical benefit in Ireland. To what expenses other than the provision of evidence of sickness and disablement this grant can be applied is not clear The certificate question is a source of trouble both to the insured and to the medical profession The profession has agreed on a uniform charge of 2s. 6d for certificates, but so far the societies and Insurance Committees, though for the most part they demand a medical certificate as evidence of sickness, have made no arrangements to pay The Act puts the onus on the societies, which endeavour to transfer it to the member Medical men are consequently put in the difficult position demanding the fee from the applicant, who is often unable to pay In many instances such members are deprived of the benefit to which they are legally entitled At a meeting of the practitioners of South Tipperary, held in Clonmel last week, a resolution was unanimously passed declaring it an unprofessional act for any medical man in the district, either in private or Poor law practice, including workhouse hospitals county infirmaries, or other hospitals, to give certificates for sick benefits to insured persons pending a final settlement of the question In most cases, however, medical men are demanding the 2s 6d fee, leaving the member to recover it from his society, as the only way by which the societies can be caused to make suitable arrangements The additional grant of £50,000 ought to make such arrangement easier. In the attempt to obtain other than medical evidence as proof of sickness some societies have adopted strange expedients In Dublin lay inspectors, said to be nurses, have visited the sick, even in hospital wards, and examined the patients and the hospital records, while in a village in the south a railway porter is engaged in his spare time as a lay inspector, and has carried out his duties to the extent of examining a girl's knee

The Corporation of Dublin and Tuberculosis

At a conference last Tuesday between the public health committee of Dublin corporation and the county borough Insurance Committee the most pressing problem was the upkeep of the Collier Dispensary, now subject to the public health committee, but for which no provision has been made in the city estimates The Insurance Committee were asked to transfer to the public health committee almost their entire income, the latter body undertaking to provide for all classes of tuberculosis No scheme has yet been drafted, but a joint subcommittee probably will shortly be appointed to draft one The corporation possesses a dispensary, and is in joint possession of a sanatorium, and it is understood that some of the Treasury grant to which it is entitled will be spent in providing accommodation for advanced cases It hopes, therefore, soon to be in a position to give the Insurance Committee any form of treatment it may desire The Insurance Committee probably will meantime advance a small sum to meet the pressing needs of the Collier Dispensary

Dinner at the Royal College of Surgeons

The Charter Day dinner of the Royal College of Surgeons was held last Saturday, Mr R D Purefoy, the President, being in the chair Before dinner the honorary Fellowship of the College was conferred on Surgeon General Sir W Launcelot Gubbins, Director-General R A M C, and Sir Berkeley G. A Moynihan Among those who spoke to the various toasts after dinner were the Lord Lieutenant, the president, vice-president (Mr F Conway Dwyer) and honorary secretary (Sir Charles A Cameron) of the College, the two new honorary Fellows, the Rev J P Mahaffy, and Dr James Little

The National Insurance Act in Belfast

The Belfast Insurance Committee has made a satisfactory arrangement with the Local Medical Committee for a temporary scheme of domiciliary treatment of tuberculous patients, which has been confirmed by the Irish Insurance Commissioners, but the Committee has so far been unable, on financial grounds, to arrange with the chemists For the post of tuberculosis medical adviser Dr Foster Coates was chosen by the Insurance Committee out of three names submitted Great dissatisfaction has been expressed in medical circles in Belfast at the active canvassing that was practised by some candidates for the post

The Belfast Corporation and the Tuberculosis Problem

The public health committee of the Belfast corporation is at present considering a scheme for dealing with the whole question of tuberculosis, and conferences are taking place between the members of this committee and a sub committee of the Local Medical Committee A statement has been submitted on behalf of the latter body for the consideration of the Belfast public health committee with a view to a satisfactory settlement

Typhoid Fever in Belfast

[illegible]

traced to any known common cause, such as milk, or water, or the eating of shell fish The only point common to all the cases is the insanitary condition of the houses in which they have occurred, yet it is not clear why this factor should operate during wet weather when it was apparently non-existent in the dry summer of 1911 There are over 20 cases in Purdysburn city fever hospital at present

The Forster Green Hospital for Consumption

At the annual meeting in connexion with the Forster Green Hospital for Consumption, held in Belfast on Jan 30th, it was reported that 261 in patients were admitted during 1912, and 979 new out-patients were seen. The evil effect of the Insurance Act in curtailing subscriptions, due to the expenditure enforced on all employers under the Act, was mentioned, and apprehension was expressed as to the future effect of the Act upon the work of the hospital.

Feb. 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Antityphoid Inoculation in the Navy.

ON Jan. 20th M. Roux laid before the Academy of Sciences a communication from M. Chantemesse, in which the fact was recalled that the struggle for pure drinking water had been going on for 25 years. It was not, however, always possible to secure pure water, and, moreover, the prophylactic problem was not entirely confined to this factor. From its inception bacteriology had sought to discover a vaccine against typhoid fever. In 1887 Fraenkel and Simmonds, Bauer and Peiper, showed that by injecting into animals small doses of living and virulent typhoid bacilli, their resistance to the virus of typhoid fever was augmented. This inoculation with living non-attenuated microbes was, however, too dangerous to admit of its application to man. M. Chantemesse, in conjunction with M. Widal, then made known a typhoid vaccine, consisting of typhoid bacilli sterilised by heat, which was harmless, and yet three or four injections of which conferred on animals immunity against the virus in the great majority of cases. On its application to man it was found to confer a like immunity on him. In 1896 this vaccine was tried in the service of M. Chantemesse on his pupils, and little by little its use was extended to other countries. After a year's trial on soldiers vaccinated with the heated vaccine the United States made this prophylactic procedure compulsory in the army. In 1903 Wassermann extolled the polyvalent bacillary vaccine and also the autolysates, which method has been recently taken up in France. In 1909 M. Chantemesse called on the Academy of Medicine to appoint a committee to study this method of prophylaxis against typhoid. After a favourable report from the Academy the Minister of War instructed M. Chantemesse last year to institute, in conjunction with a *médecin principal de l'armée*, this method of vaccination among the troops on the Algerio-Moroccan frontier. In Morocco no vaccinated person was attacked with typhoid. M. Chantemesse has always stedfastly adhered to the method of preparing the vaccine by heat sterilisation, and preserving it in a creosote emulsion, which prevents its subsequent accidental contamination. On April 5th, 1912, the Minister of Marine, M. Delcassé, authorised the systematic vaccination of the crews of the navy and the workmen at the dockyards with M. Chantemesse's vaccine. The chief of the navy medical department has recently communicated to M. Chantemesse, with the authority of the Minister, the results of the vaccinations practised among the crews of the three large squadrons and of the flying squadrons. The greater part of this marine population, some 67,845 persons, which had not been subjected to antityphoid vaccination, had sustained between April 5th and the end of December, 1912, 542 cases of typhoid fever and 118 cases of febrile gastric attacks. On the other hand, 3107 persons who had never had typhoid were vaccinated. These vaccinated individuals, who were on the same vessels as the non-vaccinated, were present in the same regions and were subject to the same conditions of work, of fatigue, of pleasures, and to the same chances of contagion, were protected against the disease in a very satisfactory manner, and did not incur a single case of typhoid. Only one man had a febrile gastric attack, which was cured. Similar information coming from widely separated parts of the world gives room for hope that little by little typhoid fever will entirely disappear from civilised countries.

Resection of the Large Intestine for Constipation.

In the case of a patient who consulted Dr. Pauchet for gastric ulcer, because of vomiting and pain supervening two or three hours after meals, X ray examination showed nothing abnormal in the stomach, but that the bismuth accumulated for two or three days in the cæcum. M. Pauchet, therefore, performed ileosigmoidostomy. The gastric trouble was reflected from the large intestine. The palliative result of the operation, however, was *nil*, the patient continuing to suffer with his stomach as before. The only effect was more frequent and softer stools. Radiography after the operation showed a reflux of part of the fæcal matter to the cæcum, where it stagnated for some time. In consequence of the persistence of the stomach trouble and the patient's consequent malnutrition, Dr. Pauchet operated again for the removal of the large intestine, having again found the stomach normal on examination. On laparotomy he found the cæcum and the ascending colon absolutely full up to the hepatic flexure, and he removed the cæcum, ascending and transverse colons, stopping at the descending colon. The operation was very easy. The peritonisation of the denuded surfaces presented no difficulty. The abdominal wall was sutured in one layer with a bronze suture. The patient was out of bed on the fifth day and left the hospital on the fourteenth.

Hygienic Delivery of Bread.

As an instance of the increasing attention that is being paid to hygienic matters, it may be mentioned that M. Herriott, the mayor of Lyons, has pointed out that the open delivery of bread, as in baskets, barrows, and the like, exposes it to contamination with dust and filth. He has therefore issued a decree that loaves delivered by any other method than in a closed vehicle must be completely wrapped in an impermeable covering.

The Purification of Oysters by Retention in Filtered Sea Water.

Of late years those who are fond of oysters have been exercised over various accidents, such as typhoid fever, that have ensued on eating them. Measures of various kinds have been taken in certain places to prevent such accidents, but complete security has not yet been attained. M. Budin and M. Chevrel have made some experiments on the purification of oysters from bacteria by keeping them in filtered sea water. On Jan. 13th they reported the constant and clear results obtained, which fully confirm those of M. Fabre-Domergue. After six days' retention in a current of sea water capable of renewing the entire contents of the vessel every two hours, the microbic purification of infected oysters in the marble container was complete in every case, and particularly with regard to the bacillus coli. At the end of this time the oyster had undergone no changes that could depreciate its market value. In a second series of researches the experimenters verified the disappearance of the typhoid bacillus under like conditions from oysters that had been artificially infected. The process of retention in filtered sea water in a sand filter without submergence, invented by M. Fabre-Domergue, may thus afford a simple solution to the problem of protecting oysters against bacterial contamination.

Feb. 3rd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Salvarsan.

Dr. Kren, in a paper read before the Medical Society in Vienna recently, summarised the results of careful observations made on 285 patients who suffered from syphilis and were treated with Professor Ehrlich's salvarsan. These patients, whose cases were followed up for a long time (over two years), received more than 600 injections of the remedy. In the year 1911, at the Clinic Riehl in Vienna, whence this report comes, a combined treatment of syphilis was introduced, consisting in an injection of 0·4 gramme of salvarsan, followed up by 30 inunctions with mercury ointment, these being immediately succeeded by another injection of 0·4 gramme of salvarsan as the final stage. The effects of this method were much better than those previously obtained. The general result of these investigations was summarised as follows. Salvarsan was a powerful remedy against syphilis, changing the course of the disease. It was not only useful in the primary stage, but was able to prevent the occurrence of secondary manifestations if employed early enough, before the serum reaction became positive; but the glands remained in the same state as at the time of injection, showing thus the symptoms of latent syphilis. Such cases have remained free from further complications for over two years In the secondary stage the remedy was less successful, but the important matter was either to give repeatedly increasing small doses or to combine the injections with inunctions of mercury Large single doses of salvarsan were not to be recommended The tertiary and the hereditary manifestations of syphilis were very successfully influenced by salvarsan *If care was taken and the contra* indications attended to there was no danger in its use These contra indications included the existence of (1) any disease which was aggravated by increase of the blood pressure , (2) all grave affections of the nerves ; (3) non-syphilitic diseases of the inner and middle ear, as well as occupations which injured the ear by the noise they produced , (4) all diseases of the glands which might cause a breaking down of them ; and (5) localisations of syphilis which might endanger life if they became swollen by the Herxheimer reaction as for instance, in the trachea or on the laryngeal articulations Dr Kren stated emphatically that fear to use salvarsan in relapses of a syphilitic disorder of the auditory nerve was not justified He said that in cases of syphilis not treated with salvarsan the auditory nerve suffered just as frequently as when salvarsan was given and the symptoms in question were promptly remedied by the use of it

Professor von Noorden

Professor von Noorden, the famous specialist for diseases depending on disordered metabolism is said to intend leaving Vienna and returning to Frankfort, where he will continue to practise untrammelled by clinical duties By the end of this year he will therefore no longer occupy his present position Energetic efforts are being made to induce him to alter his decision, but they have hitherto been unsuccessful

Psychological Experiments for Forensic Purposes

The discrepancies of statements made by witnesses in courts of law are well known as is also the fact that it is hardly possible to get several identical correct descriptions *of occurrences if details are required* The Psychological Juristic Society of Vienna recently had an instructive ordinary meeting in which this subject was tested A few weeks before this ordinary meeting there had been a special meeting in which one of the members, after a quarrel, applied abusive epithets to the president The whole thing had been prearranged, and the respective parts of the two principal actors had been well studied by them according to a written text Of course, nobody knew anything of the arrangement except the few who took part in the simulated quarrel Two weeks after the incident had taken place all members of the society were *asked to give verbally or in writing their evidence*, and a regular hearing of the case was held in the ordinary meeting, with two real judges and two barristers for the prosecution and defence When the witnesses gave their evidence, it was found that although well educated intelligent people were present at the supposed quarrel, not one of the statements made by them was correct Even as regards the duration of the episode and the time of occurrence, there were large discrepancies in the statements Acting on the evidence of the witnesses, the accused person, who was a lawyer holding the title of doctor of jurisprudence was pronounced guilty The written text of the whole affair was then read aloud and compared with the statements made *by the witnesses whereupon it appeared that the account of* the "quarrel" given by the eye witnesses and others who were present on the occasion in question were unreliable in numerous points, and that in reality the incident had taken place in a way which would have exculpated the accused This experiment showed how much the influence of excitement might be detrimental to exact perception of facts following each other in rapid succession

False Identification

The difficulty of relying upon a witness was observed quite recently here in a dramatic way when the body of a middle aged and unknown woman was found in a park A man positively declared the dead woman to be his wife, from whom he had been divorced two years ago She was accordingly buried as his divorced wife A few weeks later the woman who was really the divorced wife returned to Vienna, and was astonished at the declaration that she was legally dead In this instance the man's "identification" of the deceased woman received apparent corroboration from statements made by former friends of the wife, they being no doubt influenced by the husband's declarations

Feb 3rd

UNITED STATES OF AMERICA

(FROM OUR OWN CORRESPONDENTS)

Vital Statistics of the City of New York, 1912

Dr Ernst J Lederle, Commissioner of Health, reports that during the year ending Dec 31st, 1912, 73,008 deaths occurred, giving a death rate of 14 11 per 1000 population This number is less by 2415 deaths than that reported during the year 1911 and will probably compare favourably with that of any other large city in the world As compared with the decennial averages from 1902 to 1911 inclusive, typhoid fever *has decreased* 34 per cent , small-pox 95 per cent , measles 30 per cent , scarlet fever 38 per cent , diphtheria and croup 48 per cent , tuberculosis of the lungs 17 per cent , other forms of tuberculosis 11 per cent , while pneumonia (lobar and broncho) showed a decrease of 2678 deaths But the greatest gain is seen in diarrhoeal diseases under five years of age, a decrease of 2657 deaths Other decreases were in cirrhosis of the liver 266 deaths, in Bright's disease and nephritis 1114, puerperal diseases 206, accident 687, suicide 174 appendicitis 15, cerebro-spinal meningitis 604, and bronchitis (acute and chronic) 1042 Increased mortality was seen in cancer by 295 deaths, homicides by 57, organic heart diseases 1455 (offset, however, by a decrease of 1449 deaths from apoplexy and disease of the arteries) Mortality was decreased at all ages , in children under 1 year by 5159 deaths , under 5 years by 8463 , between 5 and 65, 7570 , 65 and over, 824 The decrease among the females reached 20 per cent , among males, 18 per cent The mortality among the coloured population was stationary There were 28 242 *deaths in institutions, a decrease of* 658, while the deaths in tenement houses numbered 30,579 a tremendous decrease of 12 781 The general death rate for the previous decennium was 17 37, so that the 14 11 of 1912 gives a decreased rate of 3 26 per 1000 population The infant mortality during the year was the lowest ever recorded in the city—viz 14 289 deaths, which gives a rate of 105 per 1000 births The number of births reported during 1912 was 135 625 an increase of 1083 over 1911 The birth rate for the year 26 22 per 1000, is the lowest since 1906 Stillbirths were reported as 6617, a decrease of 1379 on the decennial averages The number of marriages reported was 52,391, or 10 13, the highest marriage rate in five years

The Possibility of a National Health Department

It is confidently expected that the new Congress, to meet in March will make it possible to place in operation a National Health Department either independent of existing departments or as an adjunct to our active and efficient Public Health Service , while in New York the State executive is certain to advocate and push through the Legislature new laws, or amendments to those already in existence *amplifying the powers of the State Department* of Health, giving greater scope to officials, State and municipal, to enforce sanitary measures

Antityphoid Inoculation

Since the beginning of the year the New York City Board of Health has been prepared to inoculate all applicants gratis with antityphoid vaccine through its health inspectors either at the applicant s residence or at the central office of the department The vaccines will also be furnished free to practitioners *All requests for treatment must come through* the attendant or a medical inspector of the department This it is hoped with more effective control of the milk-supply, will practically put an end to typhoid fever

Eugenics

Eugenics generally forms an absorbing topic for discussion in both professional *and lay literature in America* The sane and humane power *behind this movement* is, however, less that of the numerous writers or the pseudo scientist than of those who are making comprehensive and exhaustive study of the question A propaganda of education is already taking place, which it is hoped may exercise a salutary influence on the law-makers.

Street Accidents.

During 1912, 532 persons were killed in street accidents in New York City, 230 of these being children. The number of persons injured was 2363.

A Typhoid Carrier.

The typhoid carrier, known as "Typhoid Mary," who was detained for three years on North Brother Island as a public menace by the New York Board of Health, and who brought a suit against the board, has been advised by the courts that she has no cause for action, as the board acted entirely within the power conferred upon it by the city charter.

Regulation of the Sale of Milk in New York.

The New York city department of health has recently issued a circular laying down rules for the sale of milk in the city. There will be three grades—A, B, and C. Grade A will comprise all milk suitable for the use of infants and children, and is to be sold only in bottles. Grade B is that suitable for adults, and will comprise pasteurised milk and selected raw milk, and may be sold in either bottles or cans. Grade C is milk suitable for cooking purposes only, and will be the poorest grade permitted to be sold. Bottles and cans must be clearly labelled to indicate to which grade the contents belong, the markings for each grade to be of a distinctive colour. Pasteurised milk must be plainly so marked. Only Grades A and B are allowed to be sold in restaurants, at lunch counters, &c., for immediate use by adults, while Grade A milk alone is recommended for children. Pasteurised milk is regarded by the department as safer than raw milk of the same grade.

The Mary Putnam Jacobi Fellowship.

The Woman's Medical Association of New York City offers the Mary Putnam Jacobi Fellowship of $800 available for post-graduate study, open to any woman graduate of medicine. The amount of the endowment to date will permit of a biennial award. Upon the completion of the fund this will be made annually. The Fellowship will be awarded, not by competitive examination, but upon proof of ability and promise of success in the chosen line of work. Applications for 1913-14 must be in the hands of the committee of award by April 1st, 1913, and must be accompanied by (1) testimonials as to thoroughly good health and (2) as to ability and character; (3) a detailed account of educational qualifications; (4) a statement of the work in which the applicant proposes to engage while holding the Fellowship; (5) examples, if any, of her work, in the form of articles, or accounts of investigations which she has carried out. The award will be made by June 1st, 1913, and will take effect from Oct. 1st, 1913, to Oct. 1st, 1914. All applications for this Fellowship should be forwarded to the committee of award, which consists of Dr. Emily Lewi (chairman, 35, Mt. Morris Park West, New York), Dr. Martha Wollstein, Dr. Mathilda K. Wallin, Dr. Helen Baldwin, and Dr. Emily D. Barringer.

Jan. 27th.

A POST-GRADUATE vacation course, open to foreign medical men, will be held at the Medical Clinic of the Hôtel Dieu, Paris, under the direction of Professor A. Gilbert, beginning on Monday, March 17th, and ending on April 1st. The subject of the course will be Recent Views on Diseases of the Liver, Pancreas, and Spleen. The course will consist of 24 lessons—two on each working day, at 10.30 A.M. and 3 P.M. respectively. The instructors will be Dr. Jomier, Dr. Herscher, Dr. E. Chabrol, Dr. Maurice Villaret, Dr. Lippmann, Dr. Bénard, Dr. Paul Descomps, and M. Deval, M. Guilleminot, M. Durey, and M. Dausset. There will be individual examination of patients and instruction in prescribing, the use of apparatus and laboratory work, all thoroughly practical, and a certificate will be given at the end of the course. The fees (100 francs) should be sent by post-office order to M. Deval, Chef de Laboratoire, Hôtel Dieu, Paris. In September a practical course on the Application of Laboratory Methods in Diagnosis will be held under the same conditions as in former years.

Obituary.

THE RIGHT HON. LORD ILKESTON, P.C., M.D. ERLANG., F.R.C.P. LOND., D.C.L. DURH., LL.D. MONTREAL,

FORMERLY PARLIAMENTARY SECRETARY TO THE LOCAL GOVERNMENT BOARD; CONSULTING PHYSICIAN TO THE BIRMINGHAM GENERAL HOSPITAL.

BY the death of Lord Ilkeston, which took place at his residence in London on the last day of January, the medical profession has lost its remaining representative in the House of Lords, Lord Lister having died last year. Lord Ilkeston did a mass of good work, both for his country generally and for the profession of which he was a distinguished member; and while it is impossible to consider that he won the rare honour of hereditary rank by his scientific position, he none the less owed his early recognition as a valuable public servant to his application of the teachings of medicine and sanitation to workaday life.

Balthazar Walter Foster was the eldest son of Balthazar Foster, of Beaulieu, Hampshire, and of Marion Green, Cambridge, in which latter town he was born on July 17th, 1840. He received his early education at Drogheda Grammar School and proceeded thence to Trinity College, Dublin. After studying medicine in Dublin at Trinity College and at the Royal College of Surgeons, he qualified L.R.C.P. and L.R.C.S. of Ireland in 1860, and almost immediately went to Birmingham, where he became medical tutor at Queen's College, and assistant physician to the Queen's Hospital. In 1864 he obtained the M.D. degree of the University of Erlangen, and became a Member of the Royal College of Physicians of London a year later. He was elected to the Fellowship in 1873. In 1868 he was appointed physician to the Birmingham General Hospital, an institution in which he took a keen interest, and with the practice and educational routine of which he was associated for so many years. He did not relinquish his active professional duties at the hospital until 1890, when he was appointed consulting physician. During this period of his career he did indeed much to reorganise medical education in Birmingham and, among other things, played a prominent part in bringing about the amalgamation of Queen's College and Sydenham College. He was elected Professor of Medicine in the College in 1868, retiring as Emeritus Professor in 1892.

Identifying himself with almost every phase of municipal life he entered the city council of Birmingham in 1883. As a member of the city council, on which he served for six years, he did excellent work for the health department, and, as had already happened before in Birmingham in the notable example of Mr. Joseph Chamberlain, he became marked out for public work of an important kind. It was seen that the talent which he displayed within the limits of municipal life would find a larger scope in general politics. He soon became one of the most prominent members of the local Liberal association, and in 1885 he successfully contested the city of Chester in the Liberal interest. Subsequently in the spring of 1887 he was returned for the Ilkeston Division of Derby, holding the seat until his retirement from the House of Commons in 1910, being one of the comparatively few fighting politicians who have been able to retain an unbroken hold on a constituency for over 20 years. From 1886 to 1890 he was chairman of the National Liberal Federation. In 1892 his work and influence were recognised by Mr. Gladstone, who in the Government formed that year selected Foster as Parliamentary Secretary to the Local Government Board. Foster was the first medical man to be appointed to a position in any political administration, and while his appointment was partly due to his political work in Birmingham, it was clear from the nature of the office which he was selected to fill that his medical position was not overlooked.

At the Local Government Board he was recognised by both sides of the House as a thoroughly able and conscientious administrator who had the welfare of the public and the progress of medicine always at heart. His professional knowledge, organising ability, and prompt application of his knowledge to the needs of the time enabled him to deal successfully with the outbreaks of cholera with which the country was threatened during his period of office, and it was partly in recognition of the

THE RIGHT HON. BALTHAZAR WALTER FOSTER, P.C., M.D. ERLANGEN, F.R.C.P. LOND.,
FIRST BARON ILKESTON.

(Reproduced from a photograph by Messrs. Elliott and Fry, Ltd., London.)

great assistance which he thus rendered to his country that in 1887 the British Medical Association bestowed upon him its gold medal for "distinguished merit" In the British Medical Association, within which from time to time he held almost every appointment, his activities on behalf of the profession found wide scope, and it was in this Association, as he himself said when in 1892 a dinner in honour of his appointment was given to him, that he received his chief training for public work On the return of the Liberal Party to power at the close of 1905 Sir Walter Foster was made a Privy Councillor, but he received no portfolio from Sir Henry Campbell Bannerman, an omission which was probably dictated by the necessity of finding room for a younger generation that had grown up in the Liberal Party during long deprivation from office, but which, none the less, elicited much comment

Foster's connexion with the British Medical Association was for many years, as has been already said very close When in 1872 the Association held its annual meeting in Birmingham he undertook the duties of secretary, and in 1884 to 1887 he was President of the Council In the section of Public Medicine at the meeting in Birmingham in 1892 he delivered the annual address, and dealt with the relations between the public and the medical profession so far as public health is concerned in the manner of one who knew—as an administrator and not as a visionary He pointed out that there could be no danger in a civilisation like that of Great Britain at the present day of medical tyranny or of the curtailment of individual liberty beyond that which was necessary in the interests of the public good for th [illegible] e, and if more such [illegible] days it is quite possi [illegible]

For [illegible] Direct Representative members for England on the General Medical Council He was first elected to the Council in 1886 immediately after the Medical Act had been amended to give registered medical practitioners the power of electing their own representatives, his colleagues being the late Dr J G Glover and the late Mr Wheelhouse On the Council his voice was heard attentively always—indeed, the first selections made by the medical profession of their Direct Representatives proved extremely happy The principle of direct representation was viewed by many on the Council with grave distrust, but the calm and sagacious assistance which that body received from Foster Glover and Wheelhouse completely answered the critics of a popular departure

In February, 1910, after nearly 25 years of active political work in the House of Commons he resigned his seat for the Ilkeston division, and in the summer of the same year his public services in and out of Parliament were rewarded by his elevation to the peerage The appearance of his name among the Birthday Honours gave great pleasure to the medical profession, whose interests he had never forgotten amidst the stress of political life He took his seat in the House of Lords as Baron Ilkeston, and was thus the second member of the medical profession to be created a peer For many years he was a justice of the peace for the county of Warwick, and in 1910 he was presented with the freedom of Ilkeston

Among the many academic distinctions which were bestowed upon him were the honorary D C L of the University of Durham, which he received in 1893, and the LL D of Montreal, which was conferred upon him in 1897 after the meeting of the British Medical Association held in that city He was also the first President of the Irish Medical Schools and Graduates Association

Land reform and the extension of small holdings were among the subjects in which he was greatly interested, and he was President of the Land Reform Association for several years and was also President of the Allotments and Smallholdings Association Although his life was so fully occupied in other directions he was a frequent contributor to the medical press, and was for some years a valued member of the staff of THE LANCET and of the *British Medical Journal* He also contributed to the literature of medicine both from the point of view of the treatment of disease and in the wider aspect of public health Among his published works were "The Use of the Sphygmograph in Heart Disease," "The Use of Ether and Etherised Cod-liver Oil in the Treatment of Phthisis," "Clinical Medicine," "Method and Medicine" "The Prince's Illness its Lessons," "Therapeutics of Diabetes Mellitus," "The Comparative Mortality of Birmingham and other Large Towns," "Diabetic Coma Acetonæmia," "Political Powerlessness of the Medical Profession," and "The Public Aspects of Medicine"

He married Emily, daughter of the late W L Sargant, of Edgbaston, and had four children His surviving son, the Hon Balthazar Stephen Sargant Foster, succeeds to the title The funeral took place at Brookwood Cemetery on Monday, Feb 3rd, and a memorial service was held at St Margaret's, Westminster, on the same day

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JOHN FREDERICK JOSEPH SYKES, M D, D Sc EDIN,

MEDICAL OFFICER OF HEALTH OF ST PANCRAS

WE regret to announce the death, on Jan 28th, of Dr J F J Sykes the well known medical officer of health and authority on questions of public health and sanitation

Dr Sykes, who was in his sixtieth year, was born at Brighton, where he received his early education Subsequently he studied at Paris and Frankfort on Main and at Guy's Hospital, University College Hospital and in the University of Edinburgh, taking the English conjoint qualification in 1878 in which year he also graduated M B at Edinburgh University In 1880 he took the B Sc degree, and in 1893 the M D of his university He served for a time as resident medical officer of the French Hospital, but almost from the commencement of his career he devoted himself to the public health side of his profession He was for many years an assistant examiner in hygiene in the Science and A [illegible]

Dr Sykes s [illegible] improvement of [illegible] 1888 he directed public attention to the insufficient control over the burial and identification of deceased persons and the verification and certification of deaths, and in the following year brought to notice the lack of proper hospital accommodation for cases of diphtheria in the metropolis When [illegible]

danger of midwives spreading puerperal fever In 1895 he gave evidence before the Poor law Schools Committee on the spread of disease in barrack schools In 1901 he initiated the notification of chicken pox during the prevalence of small pox Among his colleagues in the public health service his opinion was very highly valued

Dr Sykes was a member of the Faculty of Medicine of the University of London and a Fellow of the Royal Statistical Society The latter body awarded him the Howard Medal in 1900 for a competitive essay on the Results of State, Municipal, and Organised Private Enterprise on the Housing of the Working Classes in London and other Large Cities He was also Milroy Lecturer at the Royal College of Physicians of London in 1901, when he took for his subject Public Health and Housing the Influence of the Dwelling upon the Health in Relation to the Changing Style of Habitation The suggestive and valuable lesson of those lectures was that the relief of the pressure of population would ultimately be brought about by the improvement of the means of transport between the suburbs and urban centres, the building of additional houses in the suburbs, the attraction to the suburbs of the better classes and those able to live at a distance, and the slow but ultimate relief of the pressure in the middle zone by the movement and circulation of the population and the gradual vacating of houses occupied by single families and sub-letting in separate dwellings The remedy for dilapidation and deterioration would be brought about by the reconstruction of the worst areas and houses in healthy flats, the adaptation of the best streets and houses of an unhealthy "floor" type to a healthy "flat" form of construction to suit the altered mode of usage, and the supplementing of sanitary laws and by-laws with the dwelling as the basic unit

A Fellow and member of the council of the Sanitary Institute, he for some years was co editor of the Transactions and a member of the board of examiners He was President of the Incorporated Society of Medical Officers of Health and a member of the Epidemiological Society, of the Société Française d'Hygiène of the Société d'Hygiène Publique de Paris, and of the Deutscher Verein für öffentliche Gesundheitspflege. At one time he held the position of lecturer on public health at Guy's Hospital. He was a member of the organising committee and honorary secretary of the Section of Architecture and Hygiene at the International Congress of Hygiene in 1891, and was a delegate to the International Congress of Hygiene and Demography at Budapest in 1894. To the literature of the subjects in which he was so much interested he added largely, and for ten years compiled the annual health reports of Middlesex. His numerous writings upon health subjects include a volume of the Contemporary Science Series on public health problems, and various essays and reports.

The borough of St. Pancras, for which he was medical officer for 28 years, having been appointed in 1885 in succession to Sir Shirley Murphy, owes him a deep debt of gratitude for the interest which he took in all that concerned its health and well-being. He was one of the founders of the St. Pancras School for Mothers. Not only St. Pancras, however, but the whole metropolis is indebted to him for his untiring activity in the cause of the health of the people, and the science of hygiene generally has been the richer for his life.

He married Jane, the daughter of Mr. John Reynolds of Brighton, and leaves a son and a daughter.

WILLIAM CARTER, M.D. LOND., F.R.C.P. LOND., F.R.C.S. IREL., J.P.,

CONSULTING PHYSICIAN TO THE ROYAL SOUTHERN HOSPITAL, LIVERPOOL, ETC.

WE regret to announce the death of Dr. William Carter, the well-known Liverpool physician, which occurred at Prince's-avenue, Liverpool, on Sunday last, Feb. 2nd.

Dr. William Carter was born at Newbury, Berkshire, in 1836, and received his medical education at Charing Cross and St. Thomas's Hospitals in London, and also in Dublin. At the University of London he had a distinguished career, winning gold medals in physiology and comparative anatomy, and obtaining honours in materia medica, organic chemistry, in medicine, midwifery, and forensic medicine. He also obtained medals from the Society of Apothecaries in London in botany, materia medica, and pharmaceutical chemistry. He graduated in the University of London as M.B., B.Sc. in 1864, having previously taken what was then the recognised double qualification of M.R.C.S. Eng., L.S.A. He was appointed demonstrator of anatomy at Charing Cross Hospital, and after a brief stay in Dublin, in 1866 he went to Liverpool, where he remained in practice and enjoyed close association with the scientific and educational side of the city for 42 years.

His first introduction to educational work in Liverpool was his appointment to the lectureship on chemistry at the Liverpool College in Shaw-street, Liverpool, and from that time he was associated with the academic life in the city dating almost from the beginnings of the existing University of Liverpool. He was promptly appointed physician to the Liverpool Royal Southern Hospital and later to the Liverpool Eye and Ear Infirmary, while he was also for a period medical officer of health for West Derby. This sanitary appointment, which he held for some time, though the other professional claims on him were very heavy, gave him that insight into sanitation which made him so prominent a social reformer. Upon the foundation of the University of Liverpool he became professor of materia medica and therapeutics, a post which he held till 1908, when, on giving up his professional work, he was made Emeritus Professor. For 36 years he was honorary physician to the Royal Southern Hospital, his term of service being specially extended after he had reached the age of 60. In 1908, when he relinquished professional practice and decided to retire to Wales, a farewell banquet was given to him at which a portrait of himself painted in oils was presented to him by his friends and admirers.

In addition to the purely professional duties implied in what has been recorded, it must be mentioned that Dr. Carter was always in the forefront in public controversies upon medico-social subjects. His efforts in the promotion of total abstinence were very energetic in Liverpool; he was an acute critic of legislation for the notification of infectious disease, and the measure under which we at present live records his views rather than the wider objects first aimed at. He was an ardent advocate of the formation of medical defence unions; he spoke from the beginning, with a conviction which many of his colleagues and friends did not, and do not, share, of the benefits that would unfailingly follow on the registration of midwives; he was once engaged in starting a journal having for its object the reform of the Contagious Diseases Act; and he was a strong public champion of efficient vaccination.

With one *cause célèbre*, the famous Maybrick case, he was intimately associated, and the accuracy of his remarks upon the trial, which were published in THE LANCET shortly after the sentence had been given, was unchallenged, despite their dealing with highly controversial points. Dr. Carter gave his reasons in one sentence for believing that the symptoms displayed by the deceased had resulted from an irritant poison, most probably from arsenic.

The memory of Dr. Carter's strenuous career as physician and social reformer, which is indicated in these notes, will long remain in the city where his life work was done.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Baby Bonus.

DISSATISFACTION has been expressed in Parliament that members of the medical profession were in some instances charging a fee for filling up the certificate by which the baby bonus is claimed. The Bill provides that a medical certificate must state the child was viable, if there is any reason to doubt the fact. The Prime Minister said that for doctors to charge for these certificates was "unprofessional." The general practice has been not to make any specific charge for the certificate, but to raise the midwifery fee. On the other hand, many medical men contend there is a principle involved, and that raising the midwifery fee does not properly cover the charge for filling up a certificate. The Women's Hospital authorities now detain £3 of the £5 from their patients for a fortnight's treatment.

Lady Talbot Milk Institute.

Some months ago the Victorian Government requested Dr. J. Johnston, of the Board of Public Health, to draw up a scheme by which a pure milk-supply for infants might be extended. He proposed that various municipalities should with assistance take over and extend the operations of the Talbot Institute. The municipalities have not responded except in a very few instances. The financial state of the Lady Talbot Milk Institute once more is such that Government aid is to be invoked.

Sydney Tuberculosis Dispensary.

It is stated a report has been presented to the Chief Secretary giving information of the above institution. In the three months of its existence 250 patients are said to have been treated "with satisfactory results." A somewhat more startling allegation is that of 40 "contacts" who submitted themselves for examination, half of them were found to be suffering from consumption. These figures are apparently accepted by the dispensary officials, who point to them as sufficient justification for the existence of such work. But in some quarters they are doubted.

Friendly Societies in Victoria.

The annual report of the Government statist of Victoria (Mr. A. M. Laughton) on Friendly Societies shows a steady increase in membership and funds. At the end of 1911 there were 48 societies, with 1498 branches, a total membership of 148,603, an annual income of £559,585, and funds representing in the aggregate £2,246,396. The funds per member worked out at £15 2*s.* 4*d.* The growth of the societies, both financial and numerical, has been especially marked during the last ten years. Between 1901 and 1911 the membership increased by 45,498, the annual income by £181,545, and the total funds by £875,792. At the close of 1911 there were in existence 11 female societies, having a membership of 11,056 and total funds of £32,321. Ten of these were associated with male societies. The membership of males at the end of 1881 was 49,431, out of a population of males of 16 years and upwards of 274,840. At the close of 1911, when the population had grown to 436,989, the male membership of friendly societies was 137,547. The ratios to population of annual income and total funds were greater in Victoria than in Great Britain, while the funds per member in Victoria exceeded by almost 100 per cent the proportionate funds held in Great Britain The mortality prevailing among Victorian friendly society members has been shown by recent investigations to be much lower than that of the general community This favourable feature is specially noticeable at the younger and middle ages Returns have been furnished this year for the first time by juvenile societies They show that at the end of 1911 the number of members of 35 branches of four societies who were entitled to benefits was 429, and the funds amounted to £1585 The following is a summary of membership, revenue, expenditure, and total funds during the triennial period 1909-10-11 —

	Membership	Revenue	Expenditure	Funds
1909	136,340	£523,871	£399,345	£2,012 417
1910	142,275	534 616	424 431	2 122 602
1911	148,603	559,585	435,791	2 246,396

Victoria has about 28 per cent of the branches of the Friendly Societies of Australasia, 28 per cent of the members, and almost 32 per cent of the capital

West Australian University

The following professorial chairs in the West Australian University have been filled —Biology, Mr A Willey, D Sc, F R S; chemistry, Mr N S Wilsmore, D Sc, English, Mr. W Murdoch, M A, mathematics and physics, Mr A D Ross, M A, D Sc, geology, Mr W G Woolnough, D Sc, mining and engineering, Mr H E Whitfield, B A, B E

Immigration Medical Inspection

The Federal Government is contemplating the establishment of a medical inspector of emigrants to the Commonwealth to reside in London The Melbourne *Argus* expressed some suspicion that this merely [illegible] tion by the Labour Party against [illegible] being conducted by various States [illegible] for External Affairs) has made a statement in answer to this idea He said —

> The suggestion is that a Commonwealth medical officer should be stationed in London, and it will be his duty to appoint in the various centres doctors who will be entitled to charge only a specified fee for examining anyone desirous of coming to Australia That examination will take place in the town or village in which the prospective immigrant lives A certificate issued by the local doctor will be sufficient to enable anyone to go on board a steamer Besides that, I do not see any objection to a person who has a family doctor being examined by him provided our representative is satisfied as to his credentials, and I am prepared to put that view before the medical man we appoint On the same conditions I am quite satisfied that the certificate of any well known doctor in England will be [illegible]
>
> [illegible] at a port en route Great Britain has been specially [illegible] being [illegible]
>
> [illegible] credentials are much more liable to be refused [illegible] Commonwealth when the final searching examination is made here

Medical Rhodes Scholar

The Rhodes scholarship in Victoria for 1912 has been given to Mr F R Kerr, who is a medical student in his fifth year

Melbourne City Health Officer

The city health officer's position, rendered vacant by the resignation of Dr J Jamieson, who has held it for 27 years, will be thrown open to application There is some difference of opinion whether applicants outside Australia should be barred The salary proposed is £750 per annum

Jan 2nd.

Medical News.

THE HUNTERIAN SOCIETY DINNER—The anniversary dinner of the Hunterian Society took place at De Keyser's Royal Hotel on Feb 4th, the President, Mr A H Tubby, being in the chair A large number of ladies were present, and the function undoubtedly gained much in festivity from their presence, which removed some of the sense of heaviness that occasionally broods over such gatherings at the commencement Dr T B Hyslop gave the toast of "The Hunterian Society," which was responded to by the President, who referred to it as the second oldest medical society in London, having been founded in 1819, and as being largely a society of Guy's, St Thomas's, and London men He briefly reviewed the work of the Hunterian orators Dr W Langdon Brown, in proposing "The Guests and Sister Societies,' thought it a good thing that the amalgamation of societies in the Royal Society of Medicine had not entirely crowded out all the smaller societies He pointed out that the Hunterian Society was not the second, but the third, oldest society in London, as the Abernethian Society intervened between it and the Medical Society He referred in graceful terms to the work of Sir Francis H Champneys, Sir W Watson Cheyne and Dr Arthur Latham, whose names he coupled with the toast Sir Watson Cheyne, replying for the Medical Society of London, referred humorously to the proposal of marriage that had been made a few years back but had been declined, and Sir Francis Champneys, as President of the Royal Society of Medicine, expressed his opinion that the Medical Society had done quite right in refusing the alliance for certain of the smaller societies performed functions which they would lose by amalgamation He looked forward to the time when the acknowledged function of the Royal Society of Medicine would be to express an authoritative opinion on all important subjects in medicine and surgery Dr Arthur Latham dwelt on the twofold advantages that accrued from learned societies—the increase of knowledge and the promotion of social intercourse He said it was not sufficiently known that the amalgamation of societies into the Royal Society of Medicine had been largely due to Sir Richard Douglas Powell Referring to medical research he announced that the Government had agreed to give no less a sum than £60,000 for that purpose Dr W J M Ettles in proposing the toast of "The Orator and Officers," said that the duty of the orator was to [illegible] and see [illegible] Hunter [illegible] Dr E W Goodall, [illegible] mith, in proposing the health of "The President," mentioned that they had had an interview with the Chancellor in reference to the National Insurance Act, and expressed his pleasure in being able to announce that as a result they were going to get something very good out of him after all The President replied The dinner was excellent, and excellent music, vocal and instrumental, was provided by Miss Gladys van der Beech, Mr Leon Fartovsky, Miss Adelina Leon, Mrs Fraser Henry, and Mr Bernard Jellen

REMARKABLE HEALTH RECORD AT PWLLHELI—At the last meeting of the town council of the ancient borough of Pwllheli (whose municipal charter dates back to the days of the Black Prince) some remarkable figures were submitted by the borough surveyor with reference to the health of the town During the month of December the death rate was only 6 31 per 1000 There were no cases of infant mortality During the year 1912 the death rate was 9 45 per 1000, as compared with 13 3, the lowest record for England and Wales The following comparative table was submitted —

1877-88	Death rate	21 7	per 1000
1895-1904	"	18 8	"
1905-12	"	17 05	"
1912	"	9 45	"

There was entire freedom from notifiable infectious diseases during 1912 The town has greatly increased in public [illegible] recent [illegible] rt Its [illegible] regoing figures, and the record is the more remarkable because a large proportion of the dwellings are very old and a high percentage of the population represents old people.

The foundation-stone of a new large hospital has just been laid in Bell Ville, Argentina, by Dr. Ernesto Bosch, Minister of Education. The building will cost $2,000,000.

The late Dr. W. Page May.—On Jan. 25th the organ and tablet placed in the English Church at Helouan, Egypt, in memory of Dr. Page May, were dedicated at a special service. Lord Kitchener, as trustee of the church, unveiled the tablet, which is a very beautiful one of alabaster and marble.

A New Appointment at the South Devon and East Cornwall Hospital, Plymouth.—The committee of the South Devon and East Cornwall Hospital recently decided to add the post of assistant physician to the list of appointments of the honorary medical staff of the institution, and as a result Dr. Colin Dunrod Lindsey has been elected to this new position.

Twelfth Congress of the German Society for Orthopædic Surgery.—This Congress will take place in Easter week, and the official date of opening is March 25th (the day before the meeting of the German Surgical Society), although a meeting for the display of lantern slides will be held on the previous evening at 8 P.M. The meetings will take place in the Langenbeckhaus, Ziegelstrasse, 10 and 11, Berlin. The President for 1913 is Professor Dr. H. Spitzy, of Graz (Glacisstrasse, 15). The chief subject chosen for consideration and discussion is the Treatment of Chronic Arthritis. On March 26th the members of the Congress will hold a joint session with the Section for Kinesitherapy of the Fourth International Congress for Physiotherapy. The principal subjects will be the Physical Treatment of Joint Disease and the treatment by exercise of Nervous Diseases. Communications with reference to this section should be made to Herr Professor Dr. G. Joachimsthal, Genthinerstrasse, 16, Berlin, W.

The Association of Public Vaccinators of England and Wales.—The annual dinner of this association was held at the Hotel Cecil, Strand, London, W.C., on Jan. 31st, Mr. Arthur Maude, the President, being in the chair. The occasion was marked by some exceptionally good speaking. Sir James Crichton-Browne and Surgeon-General G. J. H. Evatt, in replying for the guests, spoke in serious terms of the present position of vaccination in this country, owing to the popular ignorance of the real facts. Sir James Crichton-Browne frankly deplored the easy-going way in which the law allowed anyone on an ill-considered pretext to deprive the country of practical immunity from small-pox; while Surgeon-General Evatt insisted particularly upon the good that would ensue upon some regular system of popular education upon the whole subject of vaccination, supporting his words from his long experience both in the army and as President of the Poor-law Medical Association. Mr. Maude spoke in strong terms of the public apathy concerning vaccination and of the complete neglect of the scientific work to be done exhibited by the State. The Government, he said, did not help the important work of the Association of Public Vaccinators in any way. Their work, however, must be done, because what he might call the "red terror" was going to arrive some day. In Japan, Servia, Mexico, Russia, and Germany—indeed, all over the world—this was recognised, and the only place in ignorance was our own country. It was shameful that we should be the only people who did not prepare the nation for the "red terror." The unvaccinated people with us now amounted to some 50 per cent. of the population, and in many towns the proportion was worse. Isolation of cases as they arose might do a great deal in a limited outbreak, but the epidemic when it came would not be limited, and with a large proportion of our small-pox hospitals now allocated to other purposes we might find ourselves face to face with an overwhelming epidemic. Organisation and preparation against that time, which would come, was necessary. Mr. A. H. Martin, the retiring President, in proposing the health of the President, said that an outbreak of small-pox must sooner or later devastate this country, and a great responsibility rested upon the heads of Government departments. Vaccination exemptions had been allowed to go on throughout the land till they had increased in some places to something like 80 per cent. There were several other speakers, and the chairman briefly replied. The dinner was accompanied by a well-rendered musical programme.

The council of the National Association for the Prevention of Consumption have elected Sir Robert W. Philip, M.D., as vice-chairman of the council, in succession to the late Dr. Theodore Williams.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Grants in Aid of National Health Insurance.

Supplementary estimates just published give the details of the special grants in aid of National Health Insurance which the Government propose to vote before the end of the current financial year (March 31st, 1913). The total amount of the grants is £1,825,000. The details of the grants are as follows:—

National Health Insurance Fund (England)...	£1,380,000
" " " " (Wales)	101,000
" " " " (Scotland)...	214.000
" " " " (Ireland)	50,000
Special Drug Fund (Great Britain)	30,000
Mileage Fund (Great Britain, excluding the Highlands and Islands of Scotland)	50,000
Total	£1,825,000

The grants in aid made to the English, Welsh, and Scottish Insurance Funds will be applied by the several Commissions in grants by way of additional payments at a rate not exceeding 2*s.* 6*d.* for each insured person for the cost of medical attendance and treatment, and not exceeding 1½*d.* for each insured person for the cost of the administration of medical benefit. The Scottish grant in aid includes £10,000 for mileage and other special charges in the Highlands and Islands of Scotland.

The Irish grant in aid is to be applied towards the cost of medical certificates of sickness and other expenses of administration arising owing to the absence of medical benefit in Ireland.

Grants are to be made from the Special Drug Fund towards the cost of drugs where epidemics and other abnormal conditions have caused an excessive demand upon the funds available for this purpose. The Mileage Fund will provide special grants in respect of mileage in sparsely populated districts, exclusive of the Highlands and Islands of Scotland.

The Medical Service in the Highlands and Islands of Scotland.

Whilst a grant of £10,000 for mileage and other special charges to medical men in the Highlands and Islands of Scotland is included in the supplementary estimates, it is understood at Westminster that this is in no way intended by the Government to be a solution of the problem of medical service in that part of the country. It is stated unofficially that a sum of £32,000 will be included in the Scottish estimates next session to be expended on the organisation of the service. According to report the Scottish Local Government Board will have the administrative control of the money.

Inflammable Flannelette.

Mr. Theodore Taylor's Fabrics (Misdescription) Bill, which was introduced in the House of Commons on Tuesday, Feb. 4th, is designed to check the sale of inflammable flannelette which has caused so many deaths from burning. A standard of safety is set up to which fabrics sold under the description of safe must conform. The Bill has been read a first time.

Mental Deficiency Legislation.

An official denial has been given by the Prime Minister to the report that mental deficiency legislation will not be proceeded with next session.

Ireland and Medical Benefit.

The *personnel* of the Departmental Committee which has been appointed to inquire and report into the desirability of extending medical benefit to Ireland is not different from what has been expected at Westminster. It is anticipated that it will carry out its investigations with little delay, and if it reports in favour of an extension of medical benefits to Ireland legislation may be introduced by the Government in the coming session to give effect to its recommendations. The intention of the Committee is to deal first with the urban areas in Ireland, and it is announced that it will take evidence in Belfast and Dublin this month. Two or three months may elapse before the evidence as to the rural districts will be heard.

Tuberculosis Prevention (Ireland) Bill.

The Tuberculosis Prevention (Ireland) Bill has received a second reading in the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, JAN. 29TH.

Grievances regarding Medical Benefit.

MR. F. HALL (Dulwich) asked the Chancellor of the Exchequer whether, in view of the misapprehension as to the Government's [illegible] doctors by insured persons, he [illegible]

[illegible] the negative.

Independent Arrangements under the National Insurance Act.

[illegible] certain cases it had been stated must be brought when application was [illegible] provisions of Section 16 (3) of [illegible] inquiries.

MR. GWYNNE: I shall send the right honourable gentleman particulars

Allotment of Insured Persons.

[illegible] conditions under which insured persons in each area may be allotted [illegible] responsible. I am not aware which Insurance Committees have made arrangements with medical men on the panel granting such limitations.

MR. GWYNNE: Will the right honourable gentleman inquire whether any Insurance [illegible] Will he also notify Ins[illegible] way?—MR. MASTERMAN: [illegible] *notification. I have no* [illegible] subject.

Appointments under the National Insurance Act.

[illegible] to [illegible] r to [illegible] has [illegible] In [illegible] not

The Panel in the Isle of Ely.

MR. WORTHINGTON EVANS asked the Secretary to the Treasury to state (1) upon what terms Messrs. Morgan and Dimock had been [illegible] insured persons to make their own [illegible] complete responsibility for all the insured persons in these districts.

MR. WORTHINGTON EVANS: [illegible] this district? *If s*[illegible] Insurance Commis[illegible] the list system, if I [illegible] been suspended, and [illegible] has been accepted by the Commissioners.

Publication of Panel Lists.

[illegible] asked the Secretary to the Treasury [illegible] persons, he would arrange that the [illegible] Would it not be possible, without [illegible] of the additional doctors down in [illegible] MR. MASTERMAN: The list goes round to many hundreds of places, and it would be difficult to arrange that.

Numbers of Insured Persons.

Answe[illegible] The approxi[illegible] contribu[illegible] men and [illegible]

Naval Hospital Accommodation at Harwich.

[illegible] Harwich is one of those places on the East Coast which have only in recent years acquired a naval importa[illegible] treatment of [illegible] stationed the[illegible] board the pa[illegible] for sick, and [illegible] opportunities [illegible] opposite to [illegible] appointed [illegible] establishment. In ordinary times there is room in this hospital for treating such naval cases, but if there were to be an unusual amount of sickness among the boys at Shotley difficulties in providing accommodation might arise. The First Lord of the Admiralty is therefore making provision in the forthcoming Estimates for certain extensions at Shotley Hospital which will [illegible] course

Medical Inspection of School Children.

Captain CLIVE asked the Parliamentary Secretary to the Board of Edu[illegible] have [illegible] but [illegible] scho[illegible] they [illegible] whet[illegible] from [illegible] first [illegible] Boar[illegible] of g[illegible] men[illegible] elder [illegible] of g[illegible] matter.

Water supplies in Rural Kent.

MR. CHARLES BATHURST asked the Parliamentary Secretary to the Local Government Board whether his attention had been called to the [illegible] districts of Kent, [illegible] number of rural [illegible] their supply of [illegible] attention has [illegible] calities in rural [illegible] cation with the [illegible] question, I hope [illegible] sources of water-[illegible]

[illegible] the Secretary for Scotland whether it [illegible]

Housing in South Dublin Rural District.

[illegible] Board will [illegible] necessities of [illegible] into account [illegible] each district and the [illegible] district.

THURSDAY, JAN. 30TH.

Payments to Panel Practitioners.

MR. CASSEL asked the Secretary to the Treasury to state at what periods payments would be made to doctors on the panels who were remunerated on the capitation system, and when would the first payments be made; whether the lists of patients furnished by doctors would be accepted as sufficient for the purpose of payment, or whether it would be necessary to produce the patients' tickets; and whether remuneration would commence to run from Jan. 15th, 1913, or the date when the doctor accepted an insured person as his patient, and how would such date be ascertained.—Mr. Masterman replied: The Regulations contemplate quarterly payments, but, as I have previously stated, arrangements may be made by Insurance Committees whereby payments may be made on account during the quarter. The lists of patients sent in by the doctors will be checked by the Insurance Committees from the lists furnished by the societies, not from the medical tickets. The payments are due as from Jan. 15th or whatever later date the doctor joined the panel.

The Extent of Sanatorium Benefit.

In reply to a question put by Mr. Cassel asking in respect of an individual case of sanatorium benefit in London what articles the insured person was entitled to receive as part of domiciliary treatment, Mr. Masterman said that the Insurance Committee were empowered to authorise the supply of articles which were ordered by the doctor and were ancillary to the treatment, but had no legal power to supply articles not falling within this description.

Mr. Cassel: Is it to be taken as a rule when the doctor orders ancillary treatment in the case of tuberculosis that the things are not to be supplied?—Mr. Masterman: No, only the articles which can be legally supplied under the Act which rules the ancillary treatment of tuberculosis. The Act is not an Act for giving general relief to poor people.

Mr. Cassel: Is it a fact that these articles are confined to cod-liver oil and extract of malt?—Mr. Masterman: No, a cheque for a considerable sum, I think nearly £10, was paid over in this case for other articles which were for ancillary treatment, but the Insurance Committee have no power to supply coal or bread or meat.

Mr. Cassel: Is the right honourable gentleman aware that the information given by the doctor in charge of the case is that the articles he ordered were not coal, but supplementary diet, the daily visits of a nurse, and proper bedding?—Mr. Masterman: These were the articles supplied.

Mr. Cassel: Is it not the case that these articles were only supplied after such delay as to cause grave and serious injury to the patient?—Mr. Masterman: No, I have answered that already. That is not so.

Dispensing Medicines under the National Insurance Act.

Mr. Masterman (replying to Mr. O'Grady) said: No persons qualified to dispense medicines prior to the passing of the National Insurance Act have been disqualified from dispensing medicines by that Act. The Insurance Commissioners have no power to vary the conditions laid down in Section 15 (5) of the Act as to the supply of medicines to insured persons.

Mr. O'Grady: Is it not a fact that there are a large number of chemists in this country who are qualified, although they are not members of the Pharmaceutical Society, and have been in the habit of dispensing medicines for doctors for a period of years, and is it not a fact that the Act specifically relates to those men when it speaks of having to get a certificate from a doctor to dispense?—Mr. Masterman: I am not sure, but it only follows the limitation laid down in the Pharmacy Act.

Mr. O'Grady: Does that mean that the Act constitutes a monopoly for the members of the Pharmaceutical Society to the exclusion of other skilled men?—Mr. Masterman: The Pharmacy Act lays down certain qualifications for chemists, and those are embodied in the National Insurance Act.

Mr. O'Grady: Can these chemists be placed on the panel of dispensers for things not down in the schedule of poisons?—Mr. Masterman: I am not sure of that.

Mr. O'Grady asked the right honourable gentleman whether he was aware of the fact that in the east municipal ward of East Leeds there are 6463 persons on the electoral register, and that for the larger population in the locality which this number represented there was only one chemist's shop at which medicines might be dispensed under the National Insurance Act; and whether, in view of the hardship that this imposed on poor people, as well as the danger to life in having to come from the opposite end of the municipal division to obtain medicines, the unregistered but qualified chemists in business in the neighbourhood should be given the right to dispense under the Act.—Mr. Masterman said in reply: I have communicated with the Leeds Insurance Committee, and they are making inquiries as to the adequacy of the number of chemists in the district referred to. I may, however, point out that in any case it would not be possible to authorise the supply of medicines requiring dispensing to be arranged by other persons than those entitled to make these arrangements under the Act.

Mr. O'Grady asked the right honourable gentleman whether he was aware of the fact that the prescriptions made out on paper by the doctor and given to a patient to be dispensed at the store of a chemist who was on the panel as a dispenser [illegible] times contained a list of medical [illegible] this meant that the sale of th[illegible] was bound to go to such chemists to the loss of business of those chemists and drug store proprietors who could only be on the panels for the supply of medical appliances; and whether, having regard to the fact [illegible]hemist [illegible] to the [illegible] would be taken to alter this state of [illegible]d The National Insurance Act gives the insured person a free choice as to the chemists or other persons on the lists from whom he can obtain appliances; and I could not take any action which would have the effect of depriving the insured person of that choice.

Medical Inspection of Elementary School Children.

Mr. Rowntree asked the President of the Board of Education whether, as a result of the medical inspection in the elementary schools of England and Wales during recent years, it was possible to estimate the number of children attending these schools who were suffering from the following defects, and the approximate percentage of the whole which these numbers represent: defective vision, defective hearing, ear disease, adenoids and enlarged tonsils, injurious decay of teeth, unclean bodies, ringworm, tuberculosis, heart disease, and malnutrition.—Mr. J. A. Pease replied: The latest estimate is to be found in Paragraph 314 on p. 256 of the report for 1910 of the Board's chief medical officer. I cannot assert that there is as yet any improvement in the condition of the entrants into the schools, but we believe that substantial progress is being made in the case of children who have already come under inspection.

Medical Institutions and the National Insurance Act.

Mr. Duncan Millar asked the Secretary to the Treasury in how many instances existing medical institutions or associations had been approved under Section 15 (4) of the National Insurance Act; and in how many cases medical treatment was provided by the rules of such associations for dependents as well as for insured persons.—Mr. Masterman furnished the following written answer: 109 systems and institutions have been approved. With one exception the rules provide for the treatment of dependents.

District Nursing under the National Insurance Act.

In reply to Sir A. Williamson, Mr. Masterman wrote: The Insurance Commissioners have no funds from which to make any grant for the support of district nurses. Under Section 21 of the Act, an Approved Society or an Insurance Committee may subscribe for this purpose, and experience of the working of the Act is necessary to show what will be the effect of this provision.

MONDAY, FEB. 3RD.

Old Members of Friendly Societies.

Lord Ninian Crichton-Stuart asked the Secretary to the Treasury whether the Government were prepared to help, financially or otherwise, those members of Friendly Societies over 65 years of age who were insured persons, and therefore eligible for sickness benefit, to get medical benefit.—Mr. Masterman replied: Yes. The supplementary estimates laid on the table of the House on Friday include provision for a capitation grant of 2*s.* 6*d.* in respect of those insured persons whose societies elect to provide medical treatment as one of the benefits to be given under Section 49 of the Act.

In reply to Mr. Rupert Gwynne, Mr. Masterman said: The National Insurance Commissioners are preparing and will issue this week a table for the guidance of societies in determining the benefit which may be given to members of societies over 65 on July 15 last, which decide to give medical attendance and treatment for such members as one of the benefits to be given under Section 49 of the Act.

Medical Benefit in Chatteris and Wisbech.

Mr. Worthington Evans asked the Secretary to the Treasury how many insured persons lived in the districts of Chatteris and Wisbech under the jurisdiction of the Isle of Ely Insurance Committee, for whom four doctors had undertaken complete responsibility; and whether in these districts the four doctors were allowed to dispense.—Mr. Masterman answered: The number of insured persons living in the urban district of Wisbech is estimated at 3607 and in the urban district of Chatteris at 1753. The answer to the second part of the question is in the negative.

The Insurance Committee of the Isle of Ely.

Mr. Worthington Evans asked the Secretary to the Treasury whether insured persons were allowed to make their own arrangements under Section 15 (3) of the National Insurance Act by the Insurance Committee of the Isle of Ely; and what limits of time within which applications for permission to make private [illegible] made have been fixed by such committee.—M[illegible] The Isle of Ely Insurance Committee will exerc[illegible] on them by Section 15 (3) of the National Insurance Act in the same way as other Insurance Committees, except in the areas in which the panel system has been suspended. In those areas all the sums available for the medical treatment of insured persons will be paid by the Committee to the doctors who had undertaken complete responsibility for their treatment. I am not aware that any limits of time such as are referred to in the second part of the question have been fixed by the committee.

Mr. Worthington Evans asked the right honourable gentleman to state on what terms Messrs. Morgan and Dimock had been engaged as doctors for the Isle of Ely under the National Insurance Act; and whether any assurance had been given to them that the panel would be closed or not adopted for two years or any other period, and by whom such assurance was given.—Mr. Masterman said in reply: Dr. Morgan only rendered service pending the completion of the committee's arrangements for medical service in the Chatteris district. Dr. Dimock and the other doctors who have undertaken the attendance and treatment of insured patients in the Chatteris and Wisbech districts will be remunerated on the same terms as panel doctors elsewhere, and they have entered into agreement with the Local Insurance Committee to take complete responsibility for the insured persons in those districts for a period of two years, subject to three months' notice on either side.

Mr. Worthington Evans asked the right honourable gentleman to state the names of the four doctors appointed by the Isle of Ely Insurance Committee by special arrangement to undertake complete responsibility for insured persons in the districts of Chatteris and Wisbech, and whether he could state which of the four was assigned to Chatteris district, and the area of such district and of the Wisbech district, and which, if any, of these doctors had previously practised in either of these districts.—Mr. Masterman wrote in reply: The names of the four doctors in question are William Groom, M.D., Harry Groom, M.D., Horace Dimock, M.B., M.R.C.S., L.R.C.P., and P. Coffey, L.R.C.S., L.R.C.P. The three doctors whose names are first mentioned are treating insured persons in the borough of Wisbech, and Dr. Coffey is undertaking the same work in the urban district of Chatteris. Dr. William Groom and Dr. Harry Groom have both practised in the Wisbech area.

The Income Limit in Perth.

Mr. Charles Duncan asked the Secretary to the Treasury whether he was aware that the Perth Burgh Insurance Committee had fixed a £2 limit for medical benefit under the National Insurance Act on the ground that a panel of doctors could not otherwise have been set up; whether this action, which was causing dissatisfaction amongst insured persons in Perth, was in order; and what action he proposed to take in the matter.—Mr. Masterman answered: Under Section 15 (3) of the Act the question of whether an income limit above which persons must make their own arrangements for receiving medical attendance and treatment and receive a contribution towards its cost, instead of [illegible] resident in the area. I am informed that the Perth Insurance Committee had given public notice accordingly, and a meeting will be held at which representatives of societies will have an opportunity of expressing their views before a final decision is arrived at.

TUESDAY, FEB. 4TH.

Ireland and Medical Benefit.

Mr. J. REDMOND asked the Chancellor of the Exchequer whether he was [illegible] existing." [illegible]

[illegible] GEORGE: They have to consider Irish conditions, which are very different from ours. It is not for me to express an opinion as to whether the system obtaining in England shall apply to Ireland. They will have to adapt it in some way to the conditions existing there.

Rural Medical Men and the National Insurance Act

In answer to Mr. WRIGHT, Mr. MASTERMAN said: A doctor in a rural district who does his own dispensing under the conditions laid down in Sections 45 and 47 of the Medical Benefit Regulations will receive on the capitation system the total capitation sum for medical [illegible]

Sanatorium Benefit.

Replying to Mr. WHELER, Mr. MASTERMAN said: An insured person is entitled to such sanatorium benefit as the Insurance Committee recommends. The nature of the treatment is determined by the committee acting on the advice of the tuberculosis officer or other consulting medical man.

Medical Representation on Insurance Committees.

Mr. MASTERMAN, in reply to Mr. COOPER, said: The Insurance Com- [illegible] ate of [illegible] Insur- [illegible] ers of [illegible] y the [illegible] to the [illegible] nt of [illegible] have [illegible] edical [illegible]

Panel Medical Men and Professional Secrecy.

[illegible] ment which might be required for statistical purposes to be entered in the doctor's private day book.—Mr. MASTERMAN replied: The arrangements for keeping and furnishing the records by doctors secure that information that would connect the name of a patient with an entry as to a particular kind of disease, could not be obtained by the Commissioners, committee, or society. The nature of the evidence which a society accepts in support [illegible] the Act.

Milk Legislation in Scotland.

[illegible] honourable Member refers.

WEDNESDAY, FEB. 5TH.

Suggested Amendment of the Insurance Act.

Replying to Mr. GODFREY LOCKER-LAMPSON, Mr. MASTERMAN said: If and when experience shows that amendments of any details of the [illegible]

Appointments.

Success [illegible] *lic Institutions,* [illegible] *this column, are* [illegible] *ected to the Sub-* [illegible] *morning of each* [illegible]

[illegible] has been appointed Chief Tuberculosis [illegible]

[illegible] en appointed Physician in Charge [illegible] for Mental Diseases at University [illegible] and apartments.

[illegible] R.C.P. Lond., has been appointed [illegible] appointed Fourth Assistant Physician to the Westminster Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AGRA, DUFFERIN HOSPITALS.—Female Doctor. Salary Rs.300 a month, with free quarters.

AYLESBURY, BUCKS COUNTY LUNATIC ASYLUM, Stone.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board and apartments.

BARNSTAPLE UNION.—Medical Gentleman to undertake Care of Sick Poor for Parishes of Bittadon, Ilfracombe, and West Down. Salary £50 per annum.

[illegible] -Resident House [illegible] residence. [illegible] er. Salary £130 [illegible] on Salary £80 [illegible]

BIR [illegible]

BIR [illegible] apartments.

BOOTLE BOROUGH HOSPITALS FOR INFECTIOUS DISEASES.—Resident Medical Officer for Linacre Hospital, unmarried. Salary £120 per annum, with board, washing, and apartments.

BRADFORD POOR LAW UNION HOSPITAL AND WORKHOUSE.—Assistant [illegible] per annum, with [illegible]

[illegible] OOLS.—Second [illegible] 50 per annum, [illegible] Salary at rate [illegible] laundry. Also [illegible] n, with board, [illegible] salary £100 per [illegible] o Obstetric and [illegible] m, with board, [illegible] geon, and, if necessary, Honorary [illegible]

BURY INFIRMARY.—Seni [illegible] with board, residenc [illegible] Salary £80 per annu [illegible]

CAMBRIDGE, ADDENBRO [illegible] Salary £80 per annum [illegible]

CARDIFF, KING EDWAR [illegible] months. Salary at r [illegible] and laundry.

CARLISLE *NON-PROV* [illegible] *Medical Officer.* Salary £150 per a [illegible]

CHELSEA INFIRMARY [illegible] Assistant Medical Officer. Salary [illegible], washing, apartments, &c.

[illegible] Assistant.

EDMONTON UNION.—District Medical Officer and Public Vaccinator, Hornsey District. Salary £60 per annum.

ESSEX EDUCATION COMMITTEE.—School Medical Inspector. Salary £250 per annum.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

Thursday.—Prof. R. A. Sampson: On a Cassegrain Reflector with Corrected Field.—Prof. H. E. Armstrong and Dr. J. V. Eyre: Studies of the Processes Operative in Solutions. XXV., The Influence of Non-electrolytes on Solubility. The Nature of the Processes of Dissolution and Precipitation.—Mr. E. E. Walker: Studies of the Processes Operative in Solutions. XXVI., The Disturbance of the Equilibrium in Solutions of Fructose by [illegible] ommunicated by Prof. H. E. [illegible] and Mr. A. S. Russell: The [illegible] Rays of Ionium and Radio- [illegible] E. Rutherford).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

Tuesday.

Section of Surgery (Hon. Secretaries—James Berry, J. Murray), at 1, Wimpole street, W.: at 5.30 P.M.

Dr. Arthur F. Hertz: The Cause and Treatment of Certain Unfavourable After-effects of Gastro-enterostomy.

Mr. Edred M. Corner: Inferences on Modern Treatment drawn from Histories of Patients who have Recovered from Perforation of a Gastric or Duodenal Ulcer.

Friday.

Section of Clinical Medicine (Hon. Secretaries—Charles H. Fagge, W. Essex Wynter), at 1, Wimpole-street, W.: at 8 P.M.

Discussion

On Cervical Rib, particularly the Results of Operative Treatment.

Dr. F. Wood Jones: Anatomical Demonstration.
Mr. W. Thorburn: Surgical Treatment.
Mr. Percy Sargent: Results of Operation.
Dr. S. A. K. Wilson: Symptomatology.

Cases will be arranged to illustrate:—

(1) Results of Removal of Rib.
(2) Neuro-muscular Features.
(3) Vascular Features.

Sir StClair Thomson: (1) Intrinsic Cancer of the Larynx in a Woman: Laryngo-fissure Case in which Complete Extirpation of the Growth was apparently effected through the Mouth; (2) Lateral Rhinostomy or Moure's Operation: Case to illustrate the great Advantage of this Operation in Malignant Disease of the Nose and Accessory Sinuses.

Dr. Hale White: Retinal Hæmorrhages in Secondary Anæmia.

Dr. F. Parkes Weber: (1) Thoracic Aneurysm in a Woman; (2) Nephritis in Secondary Syphilis (Result); (3) Intermittent Claudication (Arthritis Obliterans).

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

Monday.—8.30 P.M., Discussion on Early Operation in Appendicitis (opened by Mr. E. Owen). The following gentlemen will take part in the discussion:—Mr. W. H. Battle, Mr. C. P. Childe, Sir George Beatson, Mr. A. M. Connell (Sheffield), Mr. J. G. Turner, and Mr. C. Renton.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, Lecture Theatre of the Society, 17, Bloomsbury-square, W.C.

Tuesday.—8 P.M., Papers:—Mr. E. H. Farr and Mr. R. Wright: Note on Standardised Powdered Extract of Aconite.—Mr. E. F. Harrison and Mr. P. A. W. Self: The "Lead Number" as a Test for Asafetida.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

Wednesday.—5 P.M., Major J. Oldfield, R.A.M.C. (T.): Regimental and Field Ambulance Training.

HUNTERIAN SOCIETY, St. Bartholomew's Hospital, E.C.

Wednesday.—8.30 P.M., Council Meeting. 9 P.M., Annual Oration:—Dr. E. W. Goodall: Serum Sickness.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

Thursday.—7.30 P.M., Dr. J. Kerr: Brain Mechanisms and Handwriting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

Monday.—5 P.M., Prof. J. E. Adams: Peritoneal Adhesions (An Experimental Study). (Hunterian Lecture.)

Friday.—4 P.M., Sir Rickman J. Godlee, Bart.: Hunterian Oration.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

Monday.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Dr. F. J. McCann; Some Common Mistakes in the Treatment of the Diseases of Women.

Tuesday.—4 P.M., Dr. P. Stewart: Clinique (Medical). 5.15 P.M., Lecture:—Sir George H. [illegible]

Wednesday.—4 P.M., Mr. D. C. [illegible] (Surgical). 5.15 P.M., Lecture:—Mr. [illegible] nts in the Localisation of Cerebral Tumours.

Thursday.—4 P.M., Dr. G. Rankin: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. F. H. Dally: Heart Disorders and the Gastro-intestinal Tract.

Friday.—4 P.M., Mr. J. G. French: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. W. Wingrave: Discharges.

POST-GRADUATE COLLEGE, West London Hospital, Hammersm road, W.

Monday.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A Medical Registrar: Demonstration of Cases in Wards. 12 n Dr. Bernstein: Pathological [illegible] Surgical Clinics. X Rays. [illegible] of the Eye. 5 P.M., Lecture [illegible] Anatomy and Treatment.

Tuesday.—10 A.M., Dr. Robinson: Gynæcological Operati 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wa 12 noon, Mr. T. Gray: Demonstration of Fractu 2 P.M., Medical and Surgical Clinics. X Rays. Op tions. Dr. Davis: Diseases of the Throat, Nose, and 2.30 P.M., Diseases of the Skin. 5 P.M., Lecture:—Dr. Pritch Clinical Pathology.

Wednesday.—10 A.M., Dr. Saunders: Diseases of Children, Davis: Operations of the Throat, Nose, and Ear. 11 A Mr. Souttar: Demonstration of Minor Operations. 12 n Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical Surgical Clinics. X Rays. Operations. Mr. B. Harm Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P Lecture:—Dr. Beddard: Practical Medicine.

Thursday.—10.30 A.M., Dr. Simson: Gynæcological Demonstrat 12.15 P.M., Lecture:—Dr. G. Stewart: Neurological Ca 2 P.M., Medical and Surgical Clinics. X Rays. Op tions. Mr. Dunn: Diseases of the Eye. 5 P.M., Lectur Mr. Baldwin: Practical Surgery.

Friday.—10 A.M., Dr. Robinson: Gynæcological Operati 10.30 A.M., Lecture:—Dr. Owen: Practical Medicine. 12.15 P Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Med and Surgical Clinics. X Rays. Operations. Dr. Davis: Dise of the Throat, Nose, and Ear. Diseases of the Skin. 5 P Lecture:—Dr. Abraham: Cases of Skin Disease.

Saturday.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Da Operations of the Throat, Nose, and Ear. Mr. B. Harm Diseases of the Eye. 10.30 A.M., Surgical Registrar: Demons tion of Cases in Wards. 12 noon, Mr. Souttar: Surgical Anato of the Abdomen. 2 P.M., Medical and Surgical Clinics. X R Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnou Hospital, Greenwich.

Monday.—Out-patient Demonstrations:—10 A.M. Dr. G. Hol Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Bi Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surg 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir D Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Thr

Tuesday.—Out-patient Demonstrations:—10 A.M., Dr. C. Sin Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operati 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Ran Medicine.

Wednesday.—Out-patient Demonstrations: 10 A.M., Dr. F. L mead: Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Cho Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Cho Surgery.

Thursday.—Out-patient Demonstrations:—10 A.M., Dr. G. Hol Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Bi Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. Turner: Operations. Dr. A. Davies: Pathological Demons tion. 3.15 P.M., Dr. R. Wells: Medicine.

Friday.—Out-patient Demonstrations;—10 A.M., Dr. C. Sin Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operati 2.15 P.M., Sir John Rose Bradford; Medicine. 3.15 P.M., L. McGavin: Surgery.

Saturday.—Out-patient Demonstrations: 10 A.M., Dr. F. Langm Medical. Mr. P. Cole: Surgical. 11 A.M., Mr. R. E. Bicker Eye.——10 A.M., Dr. W. Steuart: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince Wales's General Hospital, Tottenham, N.

Monday.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipha Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Clin Pathology and Pathological Demonstration (Dr. W. H. Dunca

Tuesday.—Clinic; 2.30 P.M., Operations. Clinics:—Medical O patient (Dr. A. G. Auld); Surgical (Mr. Howell Evan Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-pati (Dr. A. J. Whiting). 4.30 P.M., Lecture:—Dr. A. J. Whiti Recent Investigations in the Treatment of Heart Disease (Il trated by polygraphic tracings).

Wednesday.—Clinics:—2 P.M., Throat Operations (Mr. Gilli 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); S (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X R (Mr. W. Steuart); Clinical Pathology and Pathological Dem stration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Brooks).

Thursday.—2.30 P.M., Gynæcological Operations (Dr. A. E. Gil Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surg (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chapp 4.30 P.M., Lecture:—Dr. C. F. Hadfield: Ethyl Chlor Anæsthesia

Friday.—2.30 P.M., Operations. Clinics:—Medical Out-pati (Dr. A. G. Auld): Surgical (Mr. E. Gillespie); Eye (Mr. R. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Clin Pathology and Pathological Demonstration (Dr. W. A. Dunca

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chel Bridge-road, S.W.

Tuesday.—5 P.M., Dr. G. H. K. Macalister: Various Products the Tubercle Bacillus used in Diagnosis and Treatment a Current Views upon their Mode of Action.

Thursday.—5 P.M., *Dr. J. A. Arkwright: Some* Recent Work the Agglutination of Bacteria with Special Reference *to Agg* tination with Acids.

S OF THE CHEST,

t The Diagnosis of

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City road, E C
Course of Lecture-Demonstrations on Diseases of the Chest, with Special Reference to Tuberculosis (including a Tuberculin Course) —
MONDAY —4.30 P M , Dr Ridge, 8 P M , Dr B King (Tuberculin Course)
TUESDAY —4 30 P M Dr P B Ridge (Tuberculin Course)
WEDNESDAY —4.30 P M Dr S Thompson (Tuberculin Course)
THURSDAY —4 30 P M Dr M Leslie, 8 P M , Dr B King (Tuberculin Course)
FRIDAY —4 30 P M , Dr Phear (Tuberculin Course)
SATURDAY —10 30 A M , Dr M Leslie (Tuberculin Course)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen square, Bloomsbury, W C
TUESDAY —3 30 P M , Clinical Lecture:—Dr A Turner Sensory Conduction in the Spinal Cord
FRIDAY —3 30 P M , Clinical Lecture —Dr A Turner Sensory Types of Disseminated Sclerosis

CANCER HOSPITAL, Museum of the Hospital Fulham road, S W
WEDNESDAY —5 P M , Mr C Ryall Cancer of the Tongue (illustrated by cases and microscopic and other specimens)

ST JOHN S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester square, W C
TUESDAY —2 P M , Dr W Griffith The Pathology of the Skin 6 P M , Dr W K Sibley General Principle of Treatment of Diseases of the Skin
THURSDAY —6 P M Dr M Dockrell Fungous Diseases of the Skin—I , Tinea Circinata, II , Tinea Imbricata III Tinea Versicolor, IV , Erythrasma, V , Actinomycosis, VI , Madura Foot

GE), Physiological Labora

m: Recent Advances in

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), London Hospital, Mile End road E
Course of Lectures and Demonstration on Neurology (illustrated with Clinical Cases) —
MONDAY —4 30 P M , Dr T Thompson Lesions of the Peripheral
TUE Pathology
WE atomy and Regional Diagnosis
FRIDAY —4 30 P M , Dr H Head Common Diseases of the Nervous System

The Francis

onment and (Lecture I)

) Buckingham Palace road S W
Boulnois Hygiene of the Home (Chadwick Trust Lecture)

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle street, Piccadilly, W
TUESDAY —3 P M , Prof W Bateson: The Heredity of Sex and
ture V)

y, New Gyroscopes and their

J Thomson O M The Properties (Lecture II)

ANCOATS HOSPITAL, Manchester
THURSDAY —4 15 P M , Dr C H Melland Diabetes (Post Graduate Clinic)

MANCHESTER ROYAL INFIRMARY
TUESDAY —4 30 P M , Dr C Moore: Diet in Diseases of the Stomach (Post-Graduate Clinic)
FRIDAY —4 30 P M Mr Telford Some Examples of Calculous Disease (Post Graduate Clinic)

For further particulars of the above Lectures, &c , see Advertisement Pages

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention should be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor"

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We cannot undertake to return MSS not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET

THE Index and Title page to Vol II of 1912 were given in THE LANCET of Dec 28th, 1912

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VOLUMES for the second half of the year 1912 are now ready Bound in cloth, gilt lettered, price 16*s* , carriage extra

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METEOROLOGICAL READINGS

(Taken daily at 8 30 a m by Steward s Instruments)

THE LANCET Office Feb 5th, 1913

Date										Remarks
Jan	30	29 81	S W	0 05	51	51	43	45	45	Overcast
„	31	29 38	N W	0 19	69	45	40	39	40	Fine
Feb	1	29 73	S W		48	45	39	39	40	Overcast
„	2	29 77	W	0 20	61	49	35	36	39	Fine
„	3	30 01	S W	0 17	60	53	39	47	49	Cloudy
„	4	30 22	W		78	50	48	46	49	Fine
„	5	30 [illegible]2	S W		54	50	47	46	48	Overcast

Communications, Letters, &c., have been received from—

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the current of its secretions; and secondly, Baumgartner's failure to produce experimentally a descending tuberculosis by injecting tubercle bacilli into the urethra of a rabbit. With the idea of testing the power of organisms to travel from the urethra to the testicle against the current of the secretions, and in the hope of gaining some indication of the path that they followed, I undertook a series of experiments on animals. Following on the lines of Paladino Blandini I inoculated the anterior urethra of a series of guinea-pigs with a loopful of some definite organism, and after an interval of 12 hours made a careful bacteriological examination of various portions of the genito-urinary tract. For the first four experiments B. prodigiosus was chosen as its characteristic pigment allowed of its easy recognition. A loopful was placed in the anterior urethra, and the guinea-pig killed at the end of 12 hours. In three out of the four cases an abundant growth was obtained from the epididymis, and a much scantier one from the testis. The same organisms were also found in the vesicles and in the plexus of [illegible] ns. A control cultivation of [illegible] ated with other organisms, [illegible] cases showed the presence of numerous organisms in the lymphatics surrounding the vas. In the lumen of the vas itself few or no organisms were found. The appearance was such as to suggest that the organisms reached the testicle by means of the lymphatics, and not by the lumen of the vas, as Paladino Blandini supposed.

The difficulties of tracing tubercle bacilli after they have been inoculated into the urethra are very much greater. Cultural methods are here *almost impossible, and but little* multiplication of the bacillus occurs to assist the searcher in his hunt. The examination of the tissues of the epididymis or cord is a tedious one and open to error. My own results when using tubercle bacilli were very unconvincing, for in only one out of five cases was I able to find unmistakable tubercle bacilli in the testicle after inoculation of the urethra. Paladino Blandini, on the other hand, succeeded in demonstrating tubercle bacilli in the epididymis 30 hours after urethral inoculation in every one of his ten experiments. Moreover, Delli Santi was able to recover virulent tubercle bacilli from the testicle of a dog a few hours after having injected them into the ureter. Although virulent, the bacilli had produced no tuberculous reaction in the testicle. In spite, therefore, of this failure on my part to obtain an independent and convincing proof of the accuracy of Blandini's results, I believe that what is true of pyogenic [illegible] organism of tuberculosis, and [illegible] the epididymis by descending [illegible] exus of lymphatics. My own experiments led me to believe that not only all varieties of micro-organisms, but also inanimate granules of carmine or iron are absorbed from the urethra and carried by the lymphatics to the testicle.

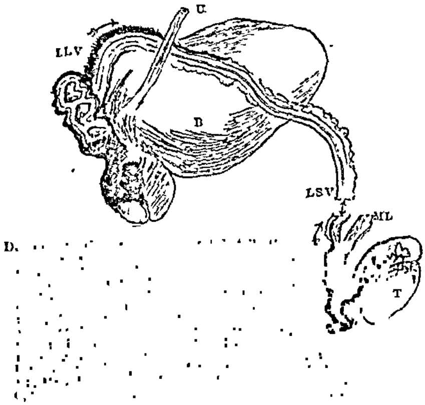
Baumgartner's failure to produce a descending tuberculosis experimentally in rabbits is, in my opinion, no proof of any inability *on* the part of the *tubercle bacillus to descend* the cord in a direction contrary to the secretions. Rather is it a demonstration of the truth of the fact that the mere presence of tubercle bacillus in a tissue is of itself not sufficient to determine a tuberculous process. In the absence of a suitable soil the bacilli are destroyed by the healthy tissues. The inoculation, then, of the urethra or even of the cord is insufficient; it is necessary also to prepare the testicle for the reception of the bacillus by previously injuring it. This is a specimen of the urino-genital system of a rabbit whose urethra I inoculated with a loopful of tubercle bacilli. The day preceding the inoculation I exposed the left testicle of the rabbit and subjected it to a certain amount of trauma. Three days after the inoculation a hydrocele appeared on the same side, and the testicle became swollen, tender, and inflamed. At the end of six weeks the rabbit had lost flesh and displayed a tuberculous urethritis, together with a *swollen, indurated epididymis* on the injured side. The post-mortem examination showed a distribution of the tuberculous lesions exactly similar to that which is usually found in the human subject. The epididymis was the seat of a well-developed tuberculosis, which had also attacked the seminal vesicle on the same side. The testicular and prostatic extremities of the cord were considerably enlarged, the intervening portion appearing but very slightly thickened. The opposite testicle was natural. Microscopic examination confirmed the above. Sections stained by the Ziehl Neilsen method showed the presence of numerous tubercle bacilli in the epididymis and their absence in the body of the testis. Although the experiment supplied a valuable corroboration to the theory of a descending tuberculosis, it failed in one very important respect. The discovery of four or five miliary tubercles on the peritoneum showed that the tuberculosis was on the point of becoming generalised, and that the necropsy had been performed too late to eliminate the possibility of infection of the testicle through the blood stream. However, the advanced stage reached by the tuberculous epididymitis compared with the meagre and youthful signs of generalisa*tion renders this improbable.*

The Distribution of the Tuberculous Tissues.

The possibility of the lymphatics of the cord acting as the path along which a descending infection of the testicle may advance is supported to some extent by the appearance of specimens obtained from the post-mortem room.

Fig. 2 is a typical example of the condition of the cord that is found in a case of genital tuberculosis. The prostatic and the testicular extremities of the cord are markedly affected, whilst the intervening portion appears healthy. If transverse sections be made and examined microscopically the following is found to be the exact distribution of the tuberculous lesions. Transverse sections of the prostatic extremity show that the vas itself is comparatively healthy, but that it is surrounded by a thick shell of tuberculous tissue, due to infiltration of the lymphatics. As the testis is approached this lymphatic infiltration gradually ceases. A section of the distal end of the vas near its termination in the epididymis shows a converse condition. Here the disease has affected the mucosa of the vas, whereas the surrounding lymphatics give little or no evidence of any lesion. The condition of affairs is represented in the diagram (*Fig. 2*), the *tuberculous lesions* being darkly shaded. This distribution suggests that the disease is disseminated from the prostate by the lymphatics, and that having encountered in the epididymis a suitable soil in which to flourish, it produces a returning wave of infection in the vas, through the agency of the secretions. It is interesting to note that the microscopic examination of the [illegible] experimentally produced in the rabbit by [illegible] stribution. [illegible] nal vesicle [illegible] of tuberculous infiltration, the inner coat of the vas being healthy. At the distal end of the vas the parts most affected were not the outer *coats* and *the lymphatics* but the innermost coats. The further the distance from the epididymis, the

FIG. 2.



more completely were the inflammatory changes restricted to the mucosa.

Apart, therefore, from other considerations, the distribution of the tuberculous tissues alone suggests the existence in these cases of two opposing waves of infection, a centrifugal and primary one, travelling from the prostate along the lymphatics; a centripetal and secondary one, in the lumen of the vas, due to the flow of infected secretions from the diseased epididymis.

Summary.

From a consideration of the above it would appear that infection of the testicle takes place in tuberculosis, as in gonorrhœa, by means of the cord and not by the blood stream. That cases of hæmatogenous infection occur cannot be denied, but they are few in number. The evidence in favour of the frequent occurrence of a descending genital tuberculosis may be tabulated as follows:—

Clinical evidence.—1. It is extremely rare to find tubercle of the epididymis without discovering some indication of disease of the prostate or the vesicles. 2. Prostatic tubercle is not infrequently found without any lesion of the testicle. 3. The appearance of a tuberculous epididymitis is often preceded by symptoms of prostatitis or vesiculitis—the so-called prodromata of tuberculous epididymitis. 4. The earliest signs of tuberculous disease are found at the lower pole of the epididymis. This is the first position which opposes the line of march of the invading organisms. 5. Tuberculous disease of the testicle is analogous to acute infections which are known to have been produced by extension from the urethra. The ordinary type of tuberculous epididymitis has no analogy to the hæmatogenous orchitis of mumps.

Pathological evidence.—1. Lesions of the testicle without disease of the prostate are rare, whereas tuberculous lesions of the prostate are not infrequently found unaccompanied by disease of the testicle. 2. When tubercle of the testicle is found in association with tubercle of the prostate, the lesions in the prostate generally have the appearance of being older than the lesions in the epididymis. 3. Tuberculous nodules in the lower pole of the epididymis usually appear older than those in the upper pole. They are the first to soften and break down.

Experimental evidence.—1. Micro-organisms and inanimate granules are rapidly absorbed from the urethra and carried to the testicle. 2 A tuberculous epididymitis may be experimentally obtained by inoculating the urethra after having damaged one of the testicles.

THE ETIOLOGY OF TUBERCULOSIS OF THE PROSTATE.

As a result of the foregoing conclusions it would seem that the prostate, with its surrounding network of lymphatics, plays an extremely important rôle in the development of tuberculosis of the testicle. It is the gateway to tuberculous infections of the testicle, just as it is the gateway to gonococcal and pyogenic infections. If this is so, one would expect to find that tuberculous lesions of the prostate are extremely common. Post-mortem statistics show that such is the case, and that in chronic urino-genital tuberculosis the prostate is the organ which least frequently escapes.

On what does this frequent affection of the prostate depend, and what are the paths by which it is infected? In the case of the prostate four possibilities present themselves for consideration: (1) Infection by the blood stream; (2) extension of the disease by continuity of structure; (3) direct infection per urethram; and (4) infection through the agency of the urine.

It is probable that examples of all of these modes of infection are to be met with. A primary tuberculous prostatitis due to infection by the blood undoubtedly occurs. So also does tubercle of the prostate due to an extension from neighbouring structures, such as the bladder or the peritoneum. Less common and less certain is direct infection by the urethra. Still, the possibility of infection after coitus must be considered. Deville undertook an investigation of the vaginal discharges in genital tuberculosis amongst women. In four out of the eight cases examined he was able to demonstrate tubercle bacilli in the discharges. On examining the husbands of these cases he found that all were suffering from tuberculous epididymitis. Infection per urethram during coitus is therefore probable, although it is certain that infection of the female by the male is more frequent than infection of the male by the female.

Infection of the Prostate by the Urine.

It is, however, upon the importance of the urine as a vehicle of infection that I wish to lay especial emphasis.

The urine is, in the lecturer's opinion, a far more frequent agent of infection to the prostate than is the blood. The presence of a small tuberculous focus in the upper portion of the arbor urinæ is sufficient to ensure the presence of tubercle bacilli in the urine and the possibility of prostatic infection by this agency. A very large number of cases of tuberculosis of the prostate are secondary to lesions in one of the kidneys. Sometimes the prostate is infected and the bladder escapes.

Anatomical considerations render the prostate particularly liable to infection from any infective agent that may be carried to it by the urine. A medial section through the body shows that the bladder and prostate together form an excellent segregating apparatus. Any deposit in the urine would naturally tend to collect in the lowermost part, formed in the upright position by the prostate. Infective material may consequently be brought into contact with the prostatic urethra for a considerable length of time. Given any condition of lowered resistance in the tissues, such, for example, as a previous inflammation, the chance of infection would be great. Moreover, in the prostatic urethra are natural crypts and ducts in which tubercle bacilli may easily become lodged, and thus escape the fate of being swept down the urethra during the act of micturition.

Having seen, therefore, that the prostate is particularly susceptible to urine infection, it remains only to discuss the conditions under which tubercle bacilli are found in the urine.

Bacilluria due to a Tuberculous Focus in the Kidney.

The presence of tubercle bacilli in the urine secreted by one of the kidneys is generally an indication of renal tuberculosis. In a very large number of cases of tuberculous disease of the prostate a primary focus exists in one of the two kidneys, and is the *fons et origo* both of the bacilluria and of the prostatic trouble. In some cases the primary lesion in the kidneys may be so insignificant that it is impossible to detect it by clinical means. Post-mortem statistics show the frequency with which tuberculosis of the lower urinary passages is associated with an undiagnosed focus in the kidney. Nor are these cases always revealed by a post-mortem examination. It is only after a careful microscopic examination of the kidneys that we can with any certainty state that they are free from suspicion. The microscope will occasionally reveal a tuberculous nodule in what appeared to the naked eye a perfectly healthy organ.

Yet in spite of this a certain number of cases of prostatic and vesical tubercle occur in which a careful investigation of the kidney fails to discover the changes that are commonly regarded as characteristic of tuberculous processes. By what means, in such cases, may tubercle bacilli gain an entry into the urine? This question of the infection of the prostate by the urine in the absence of any renal tuberculosis requires careful consideration.

Infection by the Urine in the Absence of a Typical Renal Tuberculosis.

The question of the elimination of bacteria by the healthy kidney has provoked much discussion. Bield, Krauss, and Pawlowsky held, and attempted to prove experimentally, that this excretory action exists The investigations of Wysskovitch, Spelz, Carl, and in particular those of Metier, have shown, however, that in all probability healthy renal tissue is impermeable to organisms. In the face of this and of other experimental evidence any theory which presupposes the secretion of tubercle bacilli by the healthy kidney must be abandoned. If tubercle bacilli are demonstrated in the urine coming from a kidney it may be assumed that that kidney is in an *unhealthy* condition. There are two facts, however, in connexion with this that are of the utmost importance. Firstly, it must be remembered that the amount of damage which a kidney must undergo in order to render it permeable to organisms is extremely slight. Secondly, it must be borne in mind that a great many varieties of atypical tuberculosis of the kidney undoubtedly occur, so that a kidney which at first sight may appear to be free of tuberculosis may actually be acting as a focus from which tubercle bacilli are constantly passing into the urine The subject, therefore, of the rôle played by the kidney as a factor in tuberculous infections of the lower portions of the urino genital tract is one which requires very careful consideration

It will be necessary to investigate the pathology of atypical tuberculosis of the kidney, and to define the relationship which exists between an atypical renal tuberculosis and tuberculous lesions occurring elsewhere in the body If it should be found, for example, that phthisis is commonly associated with an unhealthy condition of the kidney we shall have at the same time established the probability that infection through the urine is frequent in such cases, for the existence of an unhealthy kidney is the prime factor *in the production of a* bacilluria

The first question therefore that demands attention is the following

Is a damaged condition of the kidney commoner in tuberculous than in non tuberculous patients?

The question is best answered by an examination of post-mortem records Le Noir has published the results of a series of necropsies upon phthisical subjects He states that *some form of nephritis was found in 50 per cent of such* cases, and that the frequency of association increased with the age and with the state of advancement of the pulmonary disease The renal lesions were both macroscopically and microscopically *unlike those of tubercle Sometimes the* kidneys resembled the kidneys of a *chronic interstitial* nephritis, and were small and fibrous In other cases the kidney appeared enlarged, and the disease involved the *epithelial elements In yet a third variety, according to* Salomon, microscopic examination revealed a diffuse epithelioid proliferation, accompanied by an infiltration of leucocytes Other conditions are described So varied are these that Tilden Brown has recognised seven different types of kidney lesion which may be found in association with phthisis

It is still a little uncertain whether these lesions are due to the *action of toxins or to the direct action* of *the tubercle* bacillus itself Leon, Bernard, and Salomon claim to have experimentally produced similar lesions by the injection of ethereal extracts of tubercle bacilli Tournet, however, has demonstrated *tubercle bacilli in the tubules of the diseased* kidneys, and considers the lesion to be an atypical tuberculosis Rebathe and Calliardin have also drawn attention to these anomalous forms of tuberculosis and describe cases of *nephritis* which, *clinically* as well as *pathologically*, presented the picture of an ordinary chronic nephritis and yet were shown to be tuberculous Keersmaecker has gone so far as to assert that the presence of the bacillus of Koch must always be suspected in a case of chronic inflammation that evolves towards sclerosis and is of doubtful etiology All agree that *an abnormal condition of the kidneys* is extremely common in tuberculous subjects and it is the existence of this abnormal condition rather than its etiology that is of importance in the present discussion The importance lies in the fact that *whenever there exists a tuberculous focus in the body there also exists the probability of an abnormal permeability of the kidney, and the occurrence of bacilluria*

The foregoing conclusion has been arrived at from data of a pathological nature It receives support however, from independent observations derived from a clinical source Foulerton and Hillier carried out a careful examination of the urine of patients dying from phthisis In a series of cases which afterwards came to the post-mortem table tubercle bacilli were found in the urine six times In five of these albumin was found as well as tubercle bacilli At the necropsy no trace of tuberculosis of the urinary tract could be discovered From these observations two important deductions may be made firstly, that there would appear to be some connexion between the presence in the urine of albumin and the presence of tubercle bacilli, and, secondly, that in phthisical cases tubercle bacilli are excreted in the urine The common factor that determines the bacilluria and the albuminuria is clearly the abnormal permeability of the kidneys

By a process of reasoning based on clinical evidence we have arrived at the same conclusion at which we had arrived *from pathological data We have discovered that even in the absence of any typical renal tuberculosis the urine may still* be the agent by which infection reaches the prostate We have also gained an insight into the significance of albuminuria in a patient suffering from tuberculosis in any part of the body

The Significance of Albuminuria in Cases of Urino genital Tuberculosis

The routine examination of the urine in cases of genital *tuberculosis has* convinced me that in a great number of cases of genital tuberculosis a slight degree of albuminuria exists In several of my cases this abnormal permeability of the kidney was found to have been a precursor of the development of the genital tuberculosis In two patients that have been *under my observation the albuminuria* preceded the tuberculous lesions by five years Insufficient as my observations have been, they would induce me to look upon any phthisical patient with albuminuria as a person fully equipped for the development of genital tuberculosis The appearance of a nodule in the epididymis or the prostate would seem a very natural sequel to such a condition, and would direct my attention to the urine as the vehicle of infection rather than to the blood

Hitherto our attention has been centred upon descending infections In the first part of the lecture it has been pointed out that the prostate plays an important part in the localisation and in the spread of tuberculosis to the epididymis Subsequently we have discussed the paths by which tubercle bacilli may reach the prostate Emphasis has been laid upon the urine as a vehicle of infection, and it has been shown how it may act as such even in the absence of any tuberculous lesion of the kidney It now remains only to discuss the question of ascending infections spreading from the prostate or the bladder to the kidneys

ASCENDING INFECTIONS

In spite of the frequency of bilateral renal tuberculosis, the possibility of a tuberculosis that ascends from the prostate or bladder to the kidney against the urinary current has at various times been questioned It has been held by some that *in* bilateral cases the *path* of infection for both kidneys is the blood stream the conditions that favoured the development of tuberculosis in one kidney playing a similar role in the case of the second kidney *In 1892 Professor Albarran* published the results of his experimental investigations upon the subject He asserted that an ascending tuberculous infection of the kidneys is only possible if there be an accompanying retention and that organisms are unable to ascend the ureters in the face of an opposing current of urine The experiments of Hamen and Wildbolz appeared to confirm the above conclusions, and laid equal stress on the part played by retention in the production of all ascending infections

The importance of these experimental results in the elucidation of clinical problems is *supreme The acceptance* of the maxim that some degree of retention is a *sine qua non* of ascending infections would considerably reduce the probability of the spread of tuberculosis from the bladder to the kidney Pyogenic infections of the urinary tract are with great frequency accompanied by some degree of retention *but in the* case of tuberculosis obstruction of the urinary flow is exceptional The number of cases of tuberculosis of the bladder or prostate in which there is mechanical interference with the passage of urine is small, and if a stagnant column of urine in the ureter is necessary in order that the tubercle may spread upwards to the kidney this mode of infection must [illegible] infrequent That infective agents in the [illegible] y ascending the lumen of the [illegible] n Mr C T Bond's experiments upon a case of urinary fistula By injecting indigo granules into the bladder of his patient and afterwards recovering them from the fistulous *opening* in the lumbar region he was able to demonstrate the existence of an ascending mucus current in the ureter

Experimental Evidence

With a view to obtaining further information on the subject of ascending urinary *infections* in general, and the path by which organisms from the bladder may reach the kidney, the lecturer undertook a series of inoculation experiments on animals The experiments were of the same nature as *those previously made* by Professor Paladino Blandini *By their means* I was able to satisfy myself that organisms from the urethra can actually reach the kidney without the existence of any obstruction of the urinary flow. Further, I was enabled to gain some indication of the path along which they travelled.

The experiments consisted in inoculating the anterior urethra of a series of guinea-pigs with an easily recognisable organism like bacillus prodigiosus, and of afterwards hunting for the organisms in different portions of the arbor urinæ. The animal was killed usually at the end of 12 hours, and cultivations were taken from various parts of the urinary tract. The bacteriological examination of the tissues was done with extreme precautions in order to exclude the possibility of infection during the post-mortem. The results obtained were striking in the extreme. In every case I succeeded in obtaining an abundant growth of organisms from the upper extremity of the ureter at the end of 12 hours. The possibility of a blood infection was guarded against by blood cultures that in every case proved sterile. The urine was also found to be sterile. The results of the experiments are given below :—

Guinea-pig A.—Anterior urethra inoculated with B. prodigiosus Killed in 12 hours after inoculation. Heart's blood: Sterile. Urine: Sterile. Cultures from upper end of ureter: Abundant growth. Cultures from kidney (stripped of capsule): Sterile.

Guinea-pig B.—Anterior urethra inoculated with B. prodigiosus. Killed 13 hours after inoculation. Heart's blood: Sterile. Urine: Sterile. Upper end of ureter: Growth. Kidney (stripped of capsule): Sterile.

Guinea-pig C.—Urethra inoculated with B. prodigiosus. Killed after 13 hours. Heart's blood: Sterile. Urine: Sterile. Upper end of ureter: Growth. Kidney (stripped of capsule): Sterile.

Guinea-pig D.—Urethra inoculated with B. prodigiosus. Killed after 14 hours. Heart's blood: Sterile. Urine: Sterile. Upper end of ureter: Growth. Kidney (stripped of capsule). Sterile.

The results of the four experiments were absolutely consistent. In every case organisms were obtained 12 hours after urethral inoculation from the upper extremities of the ureters, but not from the kidney itself. The urine and heart's blood were always sterile. The next step in the investigation lay in discovering the path along which the organisms travelled in their journey from the urethra to the upper end of the ureter.

Path taken by Organisms from Urethra to Upper End of Ureter.

An attempt was made to answer the question by substituting organic particles for living organisms, and inoculating the urethra with carmine granules or with finely powdered ferrous carbonate. Numerous sections of the tissues were afterwards prepared and searched for particles. In the case of the ferrous carbonate the sections were treated with ferrocyanide and hydrochloric acid in order to render the iron visible. The results of these experiments were such as to favour the idea that the particles travelled to the upper extremity of the ureter by way of the surrounding plexus of lymphatics. Moreover, an unexpected and suggestive disposition of granules was discovered in the kidneys. Although no trace of iron could be found in the substance of the kidney unmistakable granules were seen lying in the capsule.

To throw further light on the idea that organisms travelled, not by the lumen of the ureter, but in the plexus of lymphatics that surrounds that channel, further experiments were undertaken. The ureter of a guinea-pig was exposed on one side, close to the bladder, and was ligatured after careful separation from its surrounding lymphatics. The anterior urethra was then inoculated in the usual way, and the animal killed at the end of 12 hours. It was found that ligature of the ureter without interference with the surrounding lymphatics had not prevented the organisms from reaching the upper end of the ureter. Moreover, a hint was taken from the results of the experiments with iron granules, and in testing the kidney for organisms it was removed enclosed in its capsule. In the previous experiments the kidney had always been stripped of its capsule before bacteriological examination. As a result of this modification a positive result was obtained. Growths were obtained from both kidneys, although the colonies were slightly less numerous on the ligatured side.

Owing to the difficulty of recognising B. prodigiosus in sections of the tissues, it was decided to repeat the experiment with organisms which were Gram-positive and therefore more easily stained. Accordingly the urethra of a guinea-pig was inoculated with three or four loopfuls of a mixture of staphylococcus aureus and of a diphtheroid bacillus. The animal was killed 13 hours afterwards, and transverse sections of the ureters and the surrounding lymphatics were prepared. The sections showed that the lymphatics outside the ureter were crowded with Gram-positive cocci and bacilli. There could be no doubt about the identity of the organisms and those previously placed in the urethra. No organisms could be seen in the lumen or walls of the ureter itself.

Specially interesting were the results obtained from a microscopic examination of the kidney. Radial sections were cut and stained for organisms. A large number of Gram-positive cocci and bacilli were found in the lymphatics of the capsule. Very few organisms were found in the substance of the kidney, and it was obvious that the few that were discovered in this situation had made their way hither by travelling along the planes of connective tissue which ran into the parenchyma of the kidney from the capsule.

The first situation, therefore, in the kidney in which organisms appear in ascending infection is the capsule. In order to confirm these unexpected results obtained from experimental inoculation I have examined bacteriologically the ureters and kidneys from cases of ascending nephritis. A proof of the correctness of the above deductions was obtained. In the ureter itself few organisms could be seen, but the surrounding lymphatics were generally found to be crowded with bacteria. The same distribution of organisms was found to exist in the kidney. Moreover, in cases of very early infection of the kidney a marked round-celled infiltration was found just subjacent to the fibrous capsule. From there invading lines of infiltration were seen running along the fibrous planes into the substance of the kidney. The distribution of organisms and the appearance of the round-celled infiltration both suggested that in, at any rate, some cases of ascending infection the organisms reach the kidney, not by the lumen of the ureter and the pelvis, but by the peri-ureteral lymphatics and the capsule. In such cases the pelvis would merely be secondarily implicated during the excretion of organisms into the urine.

The difficulties of tracing the path taken by a loopful of tubercle bacilli placed in the urethra are incomparably greater than those experienced in dealing with B. prodigiosus or pyogenic organisms. Cultural methods are impossible, and the investigation resolves itself into a laborious search for tubercle bacilli in the tissues. In spite of these difficulties Paladino Blandini obtained positive results in all of his ten experiments, proving that tubercle bacilli, like other organisms, are carried in a few hours from the urethra to the kidneys. My own results are less conclusive than the foregoing, for in only one out of five guinea-pigs inoculated have I been able to demonstrate undoubted tubercle bacilli lying in the lymphatics surrounding the upper portion of the ureter. Yet, in spite of the inconclusive nature of these results, there still remains a mass of evidence to indicate that an ascending tuberculosis may occur in the absence of urinary retention, and that the connecting link in such cases is the plexus of lymphatics surrounding the ureter. If inorganic particles and pyogenic organisms are carried by the lymphatic stream to the upper reaches of the ureter and the capsule of the kidney, it would be illogical to doubt that the same is true of tubercle bacilli.

There has ever existed a tendency to draw distinctions between pyogenic infections and tuberculous infections that do not exist. As has already been shown, tuberculous infections of the testicle are entirely comparable to pyogenic infections, and the path taken by the infective agent is probably the same in both cases. So, in the lecturer's humble opinion, may it be with ascending infections of the kidney. The characteristics which the tubercle bacillus exhibits are not fundamentally different from those of other bacilli. What is true of pyogenic infections is in the main true of tuberculous infections, and we shall not be incurring risks if we assume that the path of infection is essentially the same in the two cases.

The subject of the paths of infection in urino-genital tuberculosis is too vast to confine within the limits of a single lecture. All that I have attempted to do has been to emphasise a few points that appear to me to have escaped due recognition, and to offer a solution to some of the difficulties that have gathered round the subject.

Note.—Various diagrams were used at the lecture which it has not been found necessary to reproduce.

APPENDICITIS: A PLEA FOR IMMEDIATE OPERATION.[1]

By EDMUND OWEN, F.R.C.S. Eng.,
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If we look around the circle of our personal friends and acquaintances, say of the last 20 years, we can scarcely fail to realise the fact that several have dropped out as the result of blood-poisoning started by disease of the appendix; certainly several colleagues and friends of my own have thus needlessly perished. Indeed, medical men, who, in my opinion, ought to enjoy an exemption from all disease, have paid a heavy toll to appendicitis. Not a few have been rescued by prompt operation, but too many have not accepted for themselves that definite line of treatment which, in like circumstances, they would unhesitatingly recommend to those for whose health they were responsible. But, unfortunately, medical men make, as a rule, bad patients—bad in this sense, that they do not readily hand themselves over, bodily and entirely, to their *confrères*, and bad also in that the *confrère*, when he has undertaken entire charge, is apt to hesitate to insist upon an extreme measure lest his views should fail to meet with full acceptance of his medical friend. The adjective which I have applied to some such deaths as "unnecessary" would not so readily be applied to a death from typhoid fever, cancer of the liver, or pneumonia, for instance, but it was *unnecessary* in that if only an early operation had been resorted to no calamity would have taken place. In Surgery, as in affairs of the State, what is to be desired is the greatest good for the greatest number; and if we could have back amongst us those friends whom uncontrolled appendicular disease has taken away, and could start treatment afresh, and begin it by early removal of the inflamed appendix, many of them no doubt would still be with us. But, unfortunately, the nature of our work is such that we cannot have our failures back and try them over again in a different manner. The barrister who is not satisfied with the result which his conduct of a case has received from any particular Judge, can take the case up to another Court and have it tried over again, altering his treatment, may be, and securing, perhaps, a different verdict. But there is no Court of Appeal to the surgeon who has been unsuccessful in his management of a case. It behoves him, therefore, so to act that he may take no needless risk when entering into a contest with his great Adversary, the Man with the Scythe.

Appendicitis is different from most other acute diseases in this, that one cannot tell exactly what is the state of affairs without making an incision. The senses are prevented in their working in that the deeply lying appendix is unapproachable. In the case of pneumonia, bronchitis, or heart disease, the ear tells precisely what is wrong and how things are going; when the liver, the kidney or the bladder is in trouble the sense of touch imparts valuable or precise information, whilst in most cases the eye gives important help. But an inflamed appendix can no more be felt than seen, and it is impossible to inform oneself of its exact condition. Holmes, the poet and physiologist, suggestively remarked that one cannot tell what wood a table is made of until he lifts up the cloth. And so it is with the disease in question, one cannot tell the exact state of the appendix until it has been exposed to view by operation.

I should think that no part of the body has caused so many surgical surprises as the appendix. In one case the symptoms of disease have been uncertain, or definite but slight; and when the surgeon exposes the appendix he finds it mortified. In another case he thinks that he can distinctly feel it in the iliac fossa; but in the operation not only is it absent from its proper situation, but, after half an hour's anxious search, he finds it in the depths of the pelvis, or tucked up behind the liver.

In other cases where the symptoms have been unmistakable and even acute, much to his surprise, the surgeon finds nothing worse than a little catarrhal inflammation in the vermiform process. But the commonest surprise of all is the discovery of a perforated appendix when the symptoms have been slight, and the operation has, by good fortune, been undertaken early.

The Quiet Stage.

It is generally considered that operations done on about the fifth or sixth day of the disease have a particularly high mortality. The explanation is simple: precious time has been lost. It does not mean that the surgeon is not to operate on the fifth or sixth, or any other day: it means that the disease has gone on developing from, perhaps, an apparently simple beginning; that by this time, as likely as not, an abscess has formed, and that the surgeon's chance is by so much the worse. Further, it does not mean that if the operation is postponed to the seventh, or eighth, or to any other day, the chances of recovery would be better. With, or without operation, the patient may die; but the surgeon must do his best without regard to omens or statistics. It is out of the question now that he could advise waiting for the on-coming of the "quiet stage" before operating. The quiet stage in such a case may be nothing less than the silence of death itself. There would be no "fifth" or "sixth" or any other ominous day in the course of an appendicitis if operation had been promptly resorted to. And, as for the so-called "quiet" stage, I think it a misfortune that the specious term has ever been applied to appendicitis. But it has a great attraction, and even in medical conversation it is often spoken of as if there were actually a period in the course of the disease in which all urgent symptoms, local and general, passed away, and Nature seemed to be pausing in order that the surgeon might have a free and unhampered chance of putting a happy end to the trouble. Of course, in many cases of appendicitis the urgent symptoms do so clear up; but who is to know whether in any individual case they are going to subside or to rush forward with hurricane speed? No one can possibly tell.

Associated with the theory of a "quiet stage" in the general run of cases of appendicitis is that of a "walling off" of the area of disease. In some cases there is, no doubt, a walling off, and it is pleasant when operating on them to find the appendix shut off and lying handy in a small abscess. But in hurricane cases there can be no attempt at a walling off. Nature seems to be taken by surprise, and robbed of all chance of building up protective earth-works. One could scarcely expect a gangrenous appendix to glue itself to neighbouring coils of bowel, or to cause the production of helpful plastic lymph. In these furious cases there is usually no attempt at "walling off," so the germ-laden, sero-purulent exudation may be found tracking across to the opposite side, or draining down into the pelvis. There is evidently no more chance for a "walling off" than for the on-coming of the "quiet stage."

A Fool's Paradise Stage in Appendicitis.

There is apt to be a fool's paradise stage in appendicitis, and it may come early or late in the course of the disease. Its occurrence is somewhat in this manner:—A patient has been complaining of pains in the abdomen for a day or two, with some slight tenderness in the right iliac fossa; the pulse has been, perhaps, at about 100 to 120, and the temperature at 101° F. After a baddish night the man wakes up and finds that the pains have gone, and that he is better in every way. The pulse has dropped, may be, to 90; the temperature is a degree lower, and the man's appearance is much better. His nearest relation, who has been in to see him, is delighted with his improvement. The nurse also recognises a great change, and the family doctor admits that since his visit of the previous night a marked alteration has taken place. But in spite of all this, the lower part of [illegible] ill a resistance in [illegible] some tenderness [illegible] ins. The patient is not actually better: he is worse. The state of his pulse [illegible] is of no real clinical value—it is, on [illegible] and the sensations and [illegible] o be taken as indications [illegible] persistent rigidity of the lower part of the abdominal wall.

What exactly has happened to produce this sudden change one cannot say. As likely as not, the swollen appendix has given way to internal pressure, and some thick muco-purulent fluid, or even a solid concretion, has escaped. Or and on the diagnosis being confirmed, I shall beg him *at once* to operate. And if these principles were adopted in all cases of appendicitis, the mortality of the disease would probably be lowered by 90 *per cent.*

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[1] An abstract of a paper read before the Medical Society of London on Feb. 10th, to open a debate upon the Early Operation for Appendicitis.

Misleading Symptoms.

Whether all the views advocated in this paper prove acceptable or not, there is, at any rate, one point which ought to receive a more general recognition; it is the reference to the fact that there may be a comparative absence of clinical signs in the presence of advanced and perilous disease in the appendix. It does not at present seem to be generally realised that the pulse and temperature of a person may be normal in spite of the appendix being gangrenous or perforated; that in some of these stealthy and rapid cases there is absolutely no fullness in the fossa; and that if the chief pathological change in the appendix is gangrene there need be very little local tenderness—for there is no sensation in dead tissue; that as there is no sensation in a mortified appendix, there need be no reflex rigidity of the abdominal muscles covering the fossa; that there being no excitement of pulse or temperature, and little or no local pain or tenderness, the patient may make light of his trouble and that his aspect may be deceivingly cheerful. Thus, in the most dangerous class of cases of appendicitis there may be but little either to cause anxiety or to attract serious attention. Every operating surgeon will bear one out in this, and will agree that, for the happiness of all concerned, the family doctor should never sit pondering over his case of suspected appendicitis, but should *at once* call in surgical aid. If the surgeon then says that because he is not sure he would rather wait a little, at any rate, whatever happens the doctor will not afterwards have anything to reproach himself with. But I do not think that there are many surgeons who would counsel delay: we have all seen enough of the danger of waiting.

In no respect, I think, has improvement in surgical treatment in the last quarter of a century been more marked than in that of strangulated hernia. Taxis and the hot-bath happily have become things of the past. The general practitioner sends his patient into the hospital without hesitation or delay, or calls in the surgeon for immediate operation; and instead of there being now a high death-rate from strangulated hernia, statistics would show a most remarkable improvement. And what, in my opinion, is wanted at the present time is a similar waking up of the Profession with regard to the treatment of appendicitis. We have heard of the sailor who, when his ship was in action, saw an unexploded shell, with a time-fuse attached, land upon the deck. He did not wait to see the development of events, but taking the shell up in his arms, dropped it over the ship's side out of harm's way. An inflamed appendix is a shell with a lighted time-fuse, and though in any case it may happily fail to explode, it is far safer to lift it out at once and drop it over-board.

In the course of this paper scarcely a word has been said as regards alternative methods of treatment, for, in my opinion, *there is no place for the discussion of general measures until after the inflamed appendix is out.*

Whilst waiting for leave to operate, nothing whatever should be given by the mouth, and no fomentation or water-dressing should be used, because wetting the skin spoils the antiseptic effect of the tincture of iodine, which should at once be freely and widely painted over the region in preparation for operation. But there will be plenty of scope for treatment after the appendix has been removed, and especially so in those cases in which the blood or the peritoneum has already been poisoned by absorption.

The discussion at the present time should be directed towards the solution of the important question as to whether immediate operation or temporising ought to be the rule in the treatment of appendicitis. If the answer is unmistakably in favour of immediate operation, such subjects as that of the choice of anæsthetic, the routine washing out of the stomach before the patient leaves the table, the administration of opium or of purgatives may well be referred to; but the main question should first be settled. And in a meeting such as this the answer will be likely to prove useful in the drawing up of a Rule for the guidance of the practitioner in the treatment of every case of appendicitis.

THE REMOTE RESULTS OF TONSILLOTOMY AND TONSILLECTOMY:

AN ANALYTICAL SCRUTINY OF 220 UNSELECTED CASES.

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THE constantly recurring discussions as to the relative merits of these operations have usually centred around technique; or, when the claims of one or the other have been urged in reference to the results obtained, these claims are unsupported by systematic records of cases. Since we do not even yet know whether the tonsil is a friend or enemy, such a record is called for.

Method of investigation.—All the patients have been operated on in Mr. W. D. Harmer's clinic at St. Bartholomew's Hospital. There were 110 cases of tonsillotomy and 110 of tonsillectomy. The sexes were about equally divided; the ages at operation ranged from 3 to 43. The earliest of these operations occurred in 1908, the latest in 1912; 70 per cent. of the patients were examined at an average period of two years after operation, and all of them since May, 1912. Case-cards were made recording in detail their complaints before and after the operation, the conditions found at subsequent examination, and the results of all previous operations. From these cards were prepared a long list of classified complaints and morbid conditions, which again were cross-classified and analysed. The statistics so obtained are not given *in extenso*, excepting where they justify obvious inferences; apart from this, only the evident results of the analyses are stated.

The complaint.—In the case of certain complaints, in spite of a detailed analysis, no strong inference can be drawn as to what is the operation of choice. Thus, for obstructive dyspnœa tonsillectomy is slightly more likely to cure, and much more likely to prevent recurrence. For aural troubles (deafness, Eustachian obstruction with retracted drums, Eustachian catarrh) tonsillectomy is better. For dysphagia and for nasal affections (snoring, rhinorrhœa, epistaxis) no deduction is warranted as to the operation of choice. For gastro-intestinal troubles, remote affections such as various forms of goitre, and systemic infections (rheumatism, chorea, anæmia, tuberculosis) no strong inference is justified. It is noteworthy that in some cases rheumatism occurred after enucleation in patients who had never suffered before. The following figures show that if rheumatism and chorea be classed together tonsillectomy has a slight advantage. Rheumatism or chorea: Tonsillotomy, cured, 63 per cent.; not cured, 37 per cent. Tonsillectomy, cured, 68 per cent.; not cured, 32 per cent. Tonsillitis, voice troubles, and lymphadenitis will be discussed at more length below.

Complaints which have arisen since (the last) operation, which were unknown prior to that operation, and which might reasonably be traced to the operation.—These include tonsillitis (after tonsillotomy only), rhinitis, lymphadenitis, rheumatism and chorea, and laryngitis or functional voice troubles. In some cases deformities of the palate, &c., were responsible. To these statistical reference is made below under "Deformity," and after eliminating these it is found that, with the single exception of voice troubles, the figures obtained from the lists of complaints arising *de novo* after operation favour tonsillectomy in every case. The fact that voice troubles stand alone in that they are just as likely to be initiated by tonsillectomy as by tonsillotomy is interesting in view of what is further stated below under "Voice troubles."

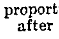
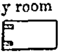
Tonsillitis.—After a complete tonsillectomy faucial tonsillitis is, of course, impossible. And none of the patients who had undergone this operation even alleged that they had suffered from tonsillitis for the first time since operation—which, however, actually occurred in 3 per cent. of the tonsillotomy cases. But there were some of the tonsillectomy patients who declared they had experienced a recurrence of former inflammation. Certain of these showed small remains, usually at the lower pole, on or in the plica, so that the operation was not truly tonsillectomy. In others no remains could be seen; and the reasonable explanation of their definite statement that tonsillitis had been diagnosed since operation would be that their ailment had really been pharyngitis. The analyses show not only that the absence of evident tonsillar remains does not determine freedom from an infection which may be diagnosed as "tonsillitis," but that, conversely, the presence of such remains does not render such infections much more probable. The explanation of this apparent paradox depends on the situation of the remains, and on certain other anatomical considerations to which allusion will be made under the heading "Lymphadenitis."

Inference from figures obtained.—For tonsillitis, tonsillectomy is the operation of choice; because if as much tonsillar tissue as possible is removed complete in its capsule, there is a greater prospect of permanent cure, and there is no probability of initiating an infection.

Laryngitis and functional voice troubles.—Cases: Tonsillotomy, 26. Result: Cured, 15 (58 per cent.); not cured, 6 (23 per cent.); uncertain, 5 (19 per cent.). Cases: Tonsillectomy, 29. Result: Cured, 14 (48 per cent.); not cured, 14 (48 per cent.); uncertain, 1 (4 per cent.).

Analysis of complaints.—A. Singing voice: the usual trouble is weakness, either of the middle register where head-notes change to chest-notes, or of the notes at the top of the compass. B. Conversational or oratorical voice becomes thick, husky, or hoarse. C. Conversational or oratorical voice is weak, so that when used it either suddenly breaks or rapidly becomes fatigued. D. Intermittent aphonia, partial or complete. By subdividing each of these classes into cases cured, not cured, and arisen afresh since operation, I have found that for Class D there is no great advantage in either operation, and for Classes A and C tonsillectomy is better. But Class B, where the speaking voice becomes thick, husky, and hoarse, comprises more cases than all the other classes added together, and in this class the figures are as follows:—Tonsillotomy: Cured, 65 per cent.; not cured, 15 per cent.; uncertain, 20 per cent. Tonsillectomy: Cured, 25 per cent.; not cured, 69 per cent.; uncertain, 6 per cent.

As regards recurrence of voice troubles, it was mentioned above that these are the only complaints in which recurrence is quite as probable after tonsillectomy as after tonsillotomy. As far as these cases are concerned, therefore, it appears from the gross figures that tonsillotomy has proved the operation of choice, and tonsillectomy is much less suitable. The failure to cure, or fresh supervention of, voice troubles after operation is in some cases referable to deformities produced by the operation. But the cases where this failure or sequela occurs without any demonstrable deformity are, after tonsillotomy 27 per cent., and after tonsillectomy 48 per cent. We must therefore inquire into the relative advantages of partial or total removal of the tonsil for acoustic purposes. With this object it was necessary to eliminate all cases which showed any such deformity as might account for failure to cure voice troubles. The remaining cases were dealt with as follows. The cases cured of voice troubles by tonsillotomy, and also those cured by tonsillectomy, have been divided into those exhibiting and those not exhibiting tonsillar remains at examination. The cases not cured by one or other operation, or in which voice troubles arose only since operation, have been similarly divided. The result is striking. Of the cured cases, whether total or partial emptying of the tonsillar fossa was intended by the operation, nearly one-half present considerable tonsillar remains; whereas the percentage proportion of uncured cases is nearly twice as great after tonsillectomy as after tonsillotomy.

It is a fact that in any room or hall two pillars jutting out from the wall thus—  interfere more with sound-waves than a single wide buttress or plateau of the same width and depth, thus—  And it seems possible that, after tonsillectomy, the two projecting tonsillar pillars, enclosing between them the deep concavity of the empty fossa, may have a similar effect. Possibly also, if the patient have to use the voice much, he may seek to counteract this impediment to free reverberation by more vigorous voice-projection, this fatiguing the laryngeal muscles. It may be argued that, after tonsillectomy, the pillars in course of time become less prominent, and the fossa levels up, so that the surface approximates to a plane. But the average length of time since operation which had elapsed when the cases of uncured or fresh voice troubles were examined was 1 year and 5 months. In none of them did the tonsillar region at all resemble a plateau, and for the voice to be injured for even this period of time may be a serious matter.

Inference from figures obtained.—Of the two operations, tonsillotomy is more likely to cure functional defects of voice, and less likely to leave such a sequelæ.

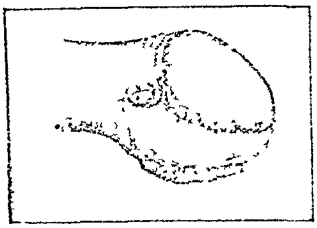
Lymphadenitis.—Three lists were made, of cases: (1) Exhibiting enlarged glands at the time of operation; (2) exhibiting enlarged glands at subsequent examination—i.e., three months to four years after operation; and (3) exhibiting tonsillar remains at subsequent examination. Cross-classifications of these three lists showed how far they overlapped—i.e., how often "glands before operation," "glands after operation," and "tonsillar remains," occur or do not occur in a given patient. An obvious lingual tonsil was found in only two cases, and any mention of remains has reference to the faucial tonsil. The figures are in favour of tonsillectomy.

Lymphadenitis uncured by operation: Tonsillotomy, 43 per cent.; tonsillectomy, 33 per cent. Lymphadenitis which had never occurred prior to operation and which was found at subsequent examination, all other possible infective foci being excluded: tonsillotomy, 30 per cent.; tonsillectomy, 20 per cent. Now it seems fair to assume that when lymphadenitis is due to an infection from a tonsil or part of a tonsil, this infection must be homolateral on the same side as that tonsil. In investigating this point it was necessary to eliminate all cases in which either glands, remains, or both, were bilateral. It was found that a homolateral infection of glands, occurring only since the operation, was much more frequent after tonsillotomy. The contralateral cases—i.e., where tonsillar remains are found only on one side and enlarged glands only on the other side—occurred with one exception after tonsillotomy. In other words, the infection of glands from an empty tonsillar fossa occurs more frequently when the guillotine has been used in the old-fashioned way than by any other method. To explain this we are reduced to mere speculation. After tonsillotomy, as ordinarily interpreted, the capsule is left behind, whether any tonsillar remains keep it company or not. And it is possible that after a very thorough tonsillotomy, leaving no macroscopic remains, the capsule keeps the fossa stretched open, and so more prone to absorb irritants or micro-organisms. Or that after a still more thorough tonsillotomy the guillotine in certain places cuts deeply, well beyond the capsule, freely opening up the areolar tissue, which subsequently heals by the formation of granulation tissue too loose and thin to resist septic absorption. It is noteworthy that tonsillar remains, after either operation, were found more often on the left side. This may be due to the attitude of the surgeon or because his view of the second tonsil attacked is impeded by hæmorrhage.

One other point calls for mention concerning lymphadenitis in its relation to tonsillar remains. The latter existed sometimes for the whole length of the tonsillar fossa, at other times as a nodule at the top or bottom. First the cases in which remains occurred at only one pole were picked out, and then this list was still further reduced by selecting only such as showed a homolateral lymphadenitis. The figures thus obtained bring out a curious fact. For, whereas it is in some cases fair to accuse a solitary remaining lower pole of infecting glands, in no case can this charge be laid against a solitary remaining upper pole. Since no known distribution of efferent lymphatics can explain this, I offer the following hypothesis. In cases where, subsequent to operation, pyo-alveolaris or other infection of the oral mucosa occurs, infected saliva and mucus reach the lymphatics by falling by gravity into the most dependent part of the fossa; here, moreover, the plica triangularis tends to lock them up. Whereas, when tonsillar remains are limited to the uppermost part of the recess, infected saliva comes into contact with them later and for a shorter period of time. This suggestion applies to the occurrence after operation of not only lymphadenitis, but also of tonsillitis.

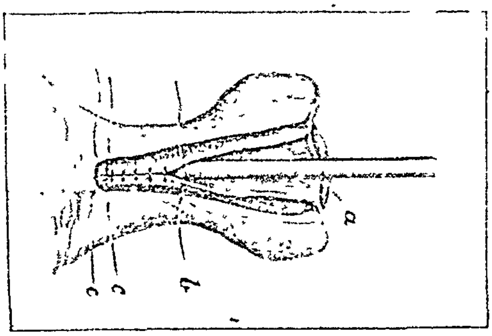
the condition shown in Fig. 3 will be produced—that is to say, the penis will be straight, and there will be a broad raw surface on the under aspect, at the scrotal end of which the urethra opens. The detached urethral groove does not remain as an elongated flap, but contracts into a surprisingly small mass (Fig. 3, *b*). An incision is then made on each side from the anterior portion of the raw area around the corona glandis, and about a millimetre away from this structure until the middle of the preputial flap is reached, when the direction of the incision is altered and it is carried along the long axis of the flap up to the free edge which was made by dividing the buttonhole (Fig 3, *c*). This incision should extend just through the skin, and it will then be possible to open out the lax tissues so as to produce the conditions shown in Fig. 4; this should be done with as little actual division of tissue as possible.

FIG. 6.



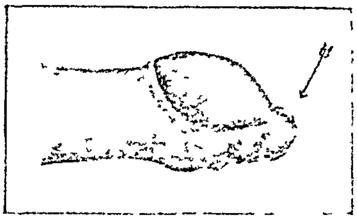
Lateral view of Fig. 5.

FIG. 7.



The third stage of the operation. *a*, Catheter stitched into meatus. *b*, Deep sutures (catgut). *c*, Superficial skin sutures (horsehair).

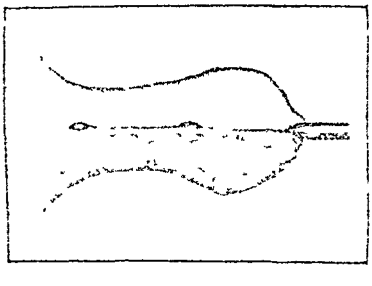
FIG. 8.



The completed operation. The arrow points to the urethral orifice

The next proceeding consists in passing stitches so as to slide in skin from the preputial flaps and thus cover the whole of this raw area with epithelium, part of which will ultimately line the new urethra. It is well to pass a stitch through the glans so as to hold the organ straight before passing the sutures. The first of these (Fig. 4, *b*) is placed so as to pick up the point of the shrunken urethra; the next (Fig. 4, *b'*) passes through the skin on one side, takes a hold on the fibrous tissue of the raw area, and finally emerges through the skin on the opposite side; the remaining sutures are passed similarly, the flaps being brought as far towards the orifice of the urethra as can be done without puckering. It will usually be found that the points *c c* (Fig. 4) will be sutured to the raw surface, just below the stitch which has been passed through the glans. The appearance when all these stitches have been passed is seen in Fig. 5. On the lateral aspect of the glans there is still a line along which the epithelium is not united, and this should now be done by a row of sutures (Fig. 6). This completes the second stage of the operation, and when the wounds have healed it will be found that the penis is perfectly straight and considerably broader, especially in the region of the glans.

FIG. 9.



To show the most common position in which fistulæ form.

FIG. 10.

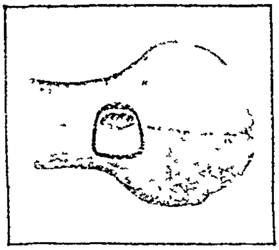


FIG. 11.

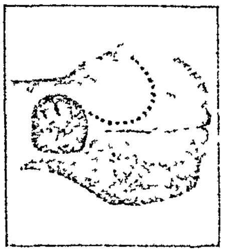
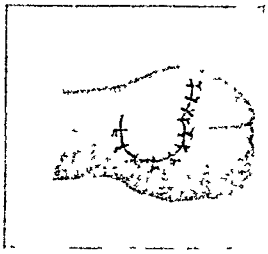


FIG. 12.



FIGS. 10, 11, 12.—Method of closing a fistula.

Stage 3.—At least another three months should be left before commencing this stage of the operation, which is carried out almost exactly as in Duplay's operation. A soft rubber catheter is passed into the urethra and stitched to the middle line of the glans (Fig. 7, *a*); this steadies the organ and facilitates the rest of the operation. An incision is made on either side of the urethral channel, extending into the connective tissue, which is then sutured around the bougie by a row of stitches (Fig. 7, *b*); the skin is closed over this by another row of stitches (Fig. 7, *c*). At the anterior part care should be taken to make the incision run slightly outwards, so as to make the floor of the urethra slightly longer than the roof; this allows for shrinkage.

The operation is now finished, and the appearance of the penis is that of an organ which has been circumcised, leaving a rather redundant mass of tissue below the frenum (Fig. 8). If everything heals satisfactorily the operation is completed, except that there will usually be a few rather unsightly tags of skin at the side of the glans, which can be clipped away if desired; but this should never be done until sound union has been obtained, as these tags will prove extremely valuable if it should be found necessary to perform any further plastic operation for closing a fistula. Fistulæ most commonly occur either at the junction of the body of the penis with the glans or just in front of the scrotum, and they are best closed in the manner shown in Figs. 10, 11, and 12. An incision is made round the fistula in the manner shown in Fig. 10, in which it will be noticed that the incision is not symmetrically placed in regard to the fistulous opening, but is well to one side, so that a flap is raised, which can be turned over the opening and sutured in position (Fig. 11). The free edge of this flap should be distinctly longer than the fistulous opening, so as to allow for shrinkage and for the insertion of sutures. When the flap has been fastened in position a raw surface is left, which is closed by sliding in a curved flap, as marked out in Fig. 11, the whole being sutured into position. This flap will usually be composed of the redundant tissue on one side of the glans, which will now present the appearance shown in Fig. 12. In the case of fistulæ at the root of the scrotum double flaps are cut as before, but the second flap is derived from scrotal tissue.

As regards suture material I have always employed fine chromicised catgut, except in the case of the final skin sutures, for which I have used horsehair. The parts are extremely delicate and friable, and it is therefore necessary to use fine needles, preferably ordinary sewing needles or curved intestinal needles. Accuracy in suturing is, of course, indispensable, but it is equally important to get a good hold on the skin flap, so that the stitches will not cut out when they are moistened with urine. As regards dressings, strips of moist boric lint wrapped round the organ and changed as often as they are soiled with urine are probably the most satisfactory, and are certainly the most comfortable for the patient. I have not found any particular advantage in keeping a catheter tied in to prevent the passage of urine over the wound. An instrument tends to set up urethritis and to keep a certain amount of tension on the stitches; furthermore, it does not always succeed in keeping the wound dry, as urine is apt to leak by the side of it.

The operation can be performed at any time after the age of 3, but it is certainly easier when the boy is older, as the parts are larger and simpler to handle. In the cases which I have completed the results are extremely satisfactory. The urine is passed freely and projected forwards in a satisfactory stream, the straightness of the organ being all that could be desired. The new lining of the urethra, as seen in those cases in which a fistulous opening formed, seems to have taken on the character of mucous membrane. I have now operated on five cases; two are completely healed, one has a fistulous opening which remains to be closed, and in two the third stage has not yet been attempted; in all, however, the straightness of the organ is entirely satisfactory.

Queen Anne street, W.

ON A CASE OF ADDISON'S DISEASE IN A BOY AGED TEN YEARS.[1]

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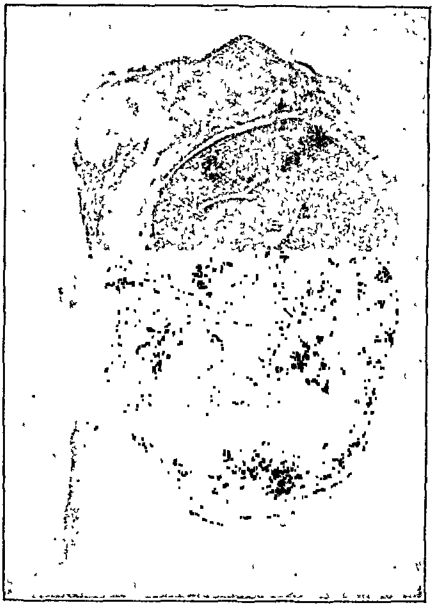
DEFINITE cases of Addison's disease in children are without doubt very rare. In the annals of the Hospital for Sick Children, Great Ormond-street, no record appears of a post-mortem examination on a patient who had been the subject of this disease, nor is there any clinical record of a case in which the symptoms were convincing enough to make the diagnosis more than questionable. Comby has collected 21 cases in children, and Dezirot 48 cases in children under 16. Of these, only 6 were under 10, the majority being in the eleventh and fifteenth years of life. Osler records an example of the disease occurring congenitally. Monti was able to find records of 11 cases in children from 3 to 14 years old. The disease in children would appear to produce symptoms very similar to those occurring in adults. Although protracted cases are described, a greater proportion run a very acute course in children. Apparently the pigmentation is usually less obvious than in the majority of adult cases, although, as is well known, a few of the latter show little or no darkening of the skin or mucous membrane. Death from convulsions and coma would appear also to be relatively more frequent in children and death from asthenia relatively less. According to Gerhardt convulsions are seen in two-fifths of the cases in children. Netter describes a case in a child, aged 4 years, who was suddenly taken ill with vomiting, diarrhœa, and depression, and died in three days.

The following case has many interesting features. The patient, a boy aged 10, was admitted to the Royal Free Hospital on Sept. 17th, 1912, at 6 A.M., and died four hours after admission. On the evening before, vomiting had started abruptly, accompanied by restlessness, and followed by loss of consciousness. On admission he was seen to be unconscious, the elbows, wrists, and knees being rigidly flexed, and the fingers extended. The temperature was subnormal and the pulse rapid and weak. The abdomen was retracted. The knee-jerks were present, and the plantar response was flexor. Frequent convulsive seizures occurred until death.

The case gave rise to much conjecture as to its nature, and remained undiagnosed until the post-mortem examination. A possible explanation appeared to be meningitis, but the rapidity of its course was against this view. Moreover, the optic discs were normal, and cerebro-spinal fluid withdrawn by lumbar puncture showed no abnormality beyond absence of reducing power. The possibility of uræmia was excluded by the fact that a catheter specimen of urine was normal. Acetone was not present, an observation which excluded "cyclical vomiting" from the diagnosis. The pigmentation amounted to no more than a slight diffuse brownness of the skin, including that of the abdomen, and would not give rise to comment in a child of the poor at the end of the summer. Later it was learnt by careful questioning of the mother that the pigmentation had been noticed to have gradually deepened for about 12 months, and that the boy had been subject to attacks of diarrhœa for "several months," and had been slowly getting weaker. The boy's father had died from phthisis ten years before, and two aunts and one uncle of his mother also died from the same disease.

Necropsy.—The body was that of a somewhat wasted boy, the skin showing slight general pigmentation without maculæ.



From a photograph of one kidney and suprarenal gland showing the advanced stage of the fibro caseous change. The other was similarly affected. (Photograph by Miss Katherine Wortham.)

The suprarenal glands were fibro-caseous, almost throughout, merely a narrow margin of healthy gland tissue being discernible, and this only in a few areas (see figure). The fibrosis had spread into the adjoining posterior abdominal parietes, and must have involved the sympathetic ganglia, though these were not recognised. Caseous glands were found in the portal fissure and two caseous foci in the lowest lobes of the lungs, near the roots, probably representing glands also. Microscopically the tuberculous nature of the process was apparent. Many large giant cell systems and tubercle bacilli were seen. There was very considerable overgrowth of the lymphatic structures. The thymus, tonsils, lymphatic patches of the tongue and intestine, and the mesenteric glands were all hyperplastic, as in status lymphaticus. The spleen was considerably enlarged, reaching well down into the abdomen almost to the umbilicus, and weighing 5 oz. The pancreas, thyroid, thymus, spleen, and pituitary body were examined microscopically, but showed no abnormal change in their structure.

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[1] The specimen was shown at the Medical Society of London on Jan. 27th, 1913.

An especially interesting feature was the small size of the heart, which weighed only 3 oz. Its smallness attracted attention immediately after removal of the sternum and ribs, and it resembled in size more the heart of a child of two or three years old. This is only what is to be expected, considering the low degree of blood pressure which the boy must have had for some considerable time. It can, I think, properly be regarded as a true hypoplasia due to the little work which the heart was called upon to perform. In adults atrophy of the heart has often been described, but I have not encountered a description of cardiac hypoplasia in Addison's disease in children.

Queen Anne-street, W.

POLYCYSTIC DISEASE OF KIDNEYS:

REMARKABLE PERSISTENCE OF FUNCTIONS IN TWO CASES IN ADULTS.

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AND

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THE two following cases of polycystic disease of the kidneys appear to be of sufficient interest to warrant recording. They offer contrasts in their clinical histories, morbid anatomy, modes of exitus, and it might be suspected in their mode of origin. The clinical histories of these cases were furnished by Professor A. Watson, of the University of Adelaide, by whom their publication was suggested.

In the first case the patient, a male, attained the age of 26 years without a symptom. He then had an attack of intestinal obstruction of a subacute and partial kind, and on examination a tumour was revealed, which was at first thought by his medical attendant to be a tumour of the descending colon. The tumour was subsequently diagnosed as renal, and on operation proved to be a polycystic kidney, which was removed. The right kidney was also ascertained at operation to be polycystic. The patient remained in perfect health for six years with one polycystic kidney, had no symptoms suggestive of renal disease, was passed for life insurance, and died from an independent disorder—acute septic meningitis secondary to otitis media, and as far as his renal functions were concerned might have lived for many years more. He showed an associated defect in an abnormality of the heart, and it might be supposed that this case was "congenital" in origin.

The second case was admitted into the Adelaide Hospital at the age of 62 years suffering from acute colitis, from which he died, and both kidneys were found to be polycystic on post-mortem examination. There was a history of gout, with a first attack at the age of 30 years, and of beer drinking; and at the age of 62 years there was some not inconsiderable arterial degeneration, with, however, but little ventricular hypertrophy; but there had never been any symptoms suggestive of renal disease. And this type of case, if any, might perhaps be considered to have been "acquired." No facts upon the point of family or hereditary relationships could be obtained in either case; for no relatives could be traced. The kidneys of these two cases are shown in the accompanying figures.

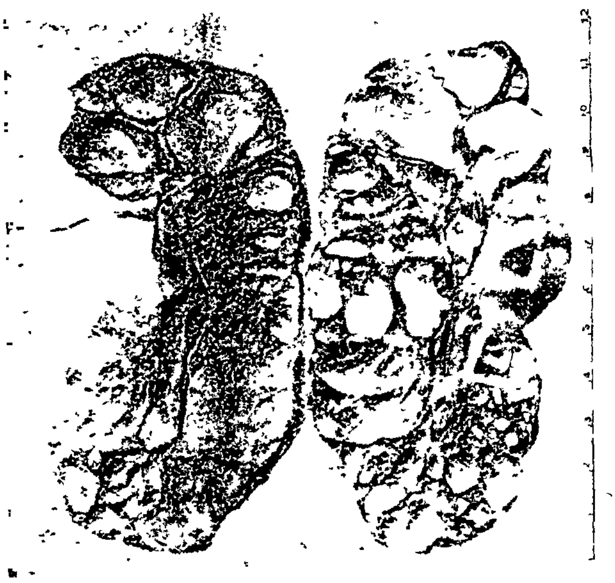
CASE 1.—The patient, a man aged 27 years, was sent to the Adelaide Hospital by his medical man at Port Pirie as suffering from tumour of the descending colon.

History.—Fourteen days previously the abdomen became distended and the patient was unable to pass anything by the bowel. After enemata he passed flatus and was somewhat relieved. No vomiting. On the third day of illness a lump was observed by the medical man in the left side below the ribs. It caused no pain, but was somewhat tender on palpation. The patient vomited once on the fourth day. The bowels were not opened for the first seven days; after this they were regular. The motions at first contained a little slime and blood. Appetite *fair; no jaundice. He had never* had any pain suggestive of renal colic, nor any trouble with his urine. This had never been noted to be blood-stained or to contain "gravel."

Previous illnesses.—Ruptured since 13 years of age; had always worn a truss. "Catarrh of bowels" four months previously. Left pleurisy two years previously. Slight traces of plumbism (had been working as a smelter for six months). No syphilis.

Physical examination on admission.—Temperature, 99·3° F.; tongue moist, furred; breath offensive; pulse-rate 76, of medium volume and tension. On the buccal surface of the lower lip, on the left side in the region where the incisor teeth came into contact with it, there were several sloughy ulcers; these were painful. The lip was swollen and the gums were soft and congested. No physical signs in heart or lungs. In the left side of the abdomen, immediately below the costal margin, a distinct, smooth, hard, rounded, oblong tumour could be felt, lying in the flank. The fingers could be got below this tumour but not above it. It was easily felt bimanually, was fairly fixed, did not move appreciably on respiration, was defined clearly internally, and was slightly tender on palpation. Intestine could be made out anterior and internal to it. No abnormality could be detected on the right side of the abdomen. Urine acid, 1008, clear, pale; contained a faint trace of albumin, no sugar, and no deposit.

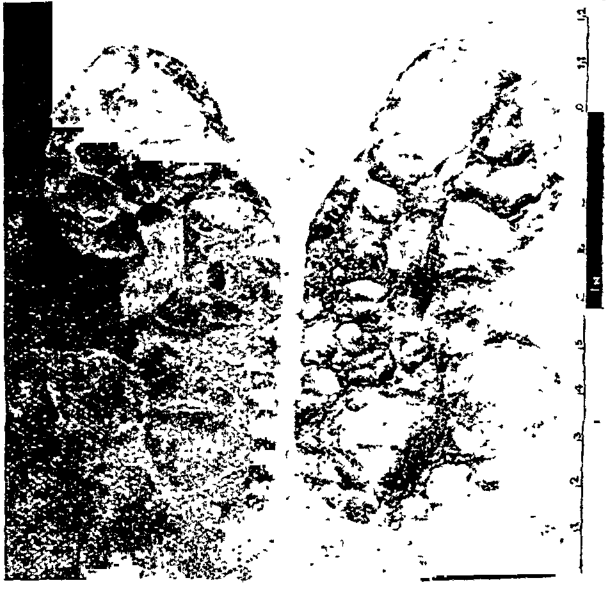
FIG. 1.



Case 1.—Right kidney polycystic.

Two days after admission this tumour, the left kidney, was removed. It was completely cystic. Its maximum measurements were 12 by 6 by 3 in., and it weighed 5¼ lb. A photograph, taken after nearly seven years in spirit, of this kidney, marked 1905, is reproduced. (Fig. 2.) On operation (Nov. 16th, 1905) the right kidney was also recognised as much enlarged and polycystic. There were no cysts in the liver or spleen, both of which were examined.

FIG. 2.



Case 1.—Left polycystic kidney.

The patient was shown at a meeting of the South Australian Branch of the British Medical Association 14 days after operation, and discharged to convalescent home 11 days later. His weight was then much increased (it had increased by 5 lb. in the last week). He was then passing on an average 97 oz. of urine of low specific gravity (1002) in the 24 hours.

The patient had to be readmitted four days later by reason of an attack of pneumonia, from which he eventually recovered. The urine then had a specific gravity of 1010, and contained a faint trace of albumin. Seven days later the qua [illegible] the 24 hours, was acid, 1008, contain [illegible] sugar, and no deposit. Owing to the [illegible] been removed too soon (i.e., two days [illegible] lumbar stab-drain incision gave way [illegible] admission, and an abscess was ov [illegible] uneventful.

The subsequent history of this individual was as follows. He remained in good health for some six years, and was during this time passed for life insurance, the scar of the abdominal incision having escaped observation. Some six years later, however, he was readmitted to the Adelaide Hospital suffering from acute septic meningitis, secondary to otitis media, from which after operation he died. The urine then had a specific gravity of 1015, and contained a fair cloud of albumin.

Necropsy.—A complete post-mortem examination was performed. [illegible] from the cause of death, septic [illegible] were *comparatively unimportant* [illegible]

[illegible] (weight proved to be 70 oz) and pushed forwards and to the left, the gall-bladder being situated in the left [illegible]

[illegible] (Fig. 1.) A good deal of shrinking has occurred owing to the prolonged immersion—more especially of the 1905 specimen—of these viscera in preserving fluids, probably an inch or more in the longest diameter.)

It is stated that *the nutrition of this body was good*, and this may be regarded as an indication that the general health of this individual had suffered little from the deprivation of [illegible] maining [illegible] at least [illegible] r family factors in this case nothing can be ascertained, for no relatives can be traced.

CASE 2.—The patient, a man aged 62 years, was admitted to the Adelaide Hospital on July 14th, 1910.

History.—The patient had been quite well until 15 [illegible]

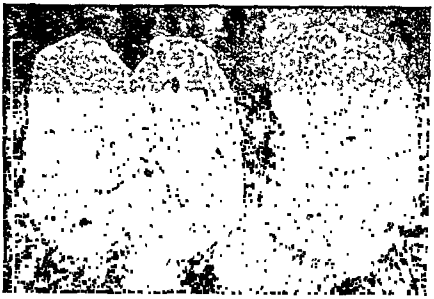
[illegible] or two previous attacks like the present, but they were slight and only lasted an hour or so. No other illnesses.

Family history.—Married, 8 children, 5 dead. First and third [illegible]

Physical examination.—A thin man of poor general nourishment. Prostration marked. Tongue coated and dry; teeth very foul; marked pyorrhœa alveolaris. Temperature subnormal; pulse 120, of [illegible] arterial wall very much thickened. [illegible] impalpable; by auscultation it [illegible] space 1 inch internal to the [illegible]. Heart sounds rather weak; [illegible] ous. Abdomen: No distension or rigidity; slight tenderness in the right hypochondrium; liver slightly enlarged downwards to 1 inch below the costal margin. Motions: Pea soup stools containing reddish flocculi and a very little mucus. Death in coma. Urine: No note.

Necropsy.—[illegible] sli [illegible] at [illegible] of [illegible] pa [illegible] congested and [illegible] membrane of the cæcum was [illegible]

FIG. 3.



Case 2.—Polycystic kidneys.

scarring of the mesentery. Both kidneys were large, polycystic, and the renal substance was diminished. (Fig. 3.) Both suprarenal glands were normal.

Thus the cause of death was exhaustion and coma, in acute colitis. The polycystic condition of the kidneys appears to be an independent association. Or is it to be regarded as a terminal infection in a chronic uræmic state? Or are we dealing, perhaps, with chronic interstitial nephritis in addition, in a gouty beer-drinker? Or is the polycystic degeneration the result of this chronic inflammatory condition? Except for size and for the fact that the perirenal fat is increased and that there is proportionately more renal tissue, the kidneys of this case much resemble those of Case 1. The vessels are small and show little thickening of their walls or atheromatous degeneration. Nothing can be ascertained upon the subject of possible heredity or family factors in the case, for here again no relations can be traced.

The following points with regard to the macroscopical appearances of the kidneys of these cases should be stated. In Case 1 the pelvis in both is enlarged commensurate with the great size of these kidneys; but there is, otherwise, nothing to suggest dilatation. Neither ureter is dilated. The vessels are in no way enlarged and there is no increase of pelvic fat. The capsule strips without any difficulty. In Case 2 the pelvis is not perceptibly dilated in either; neither ureter is dilated. The pelvic fat is somewhat increased. No abnormality in the vessels can be observed. The arteries are small, very little thickened, and not atheromatous. The capsule *strips with very slight difficulty, but this is not* greater than is not infrequently seen in the kidneys of individuals of this age (62 years) which are not regarded as morbid.

The points of interest in these cases appear to be:—In Case 1: (*a*) The age, 26 years, at which the condition first became manifest. If this condition was congenital in origin, as is to some extent suggested by the fact that this patient showed what appeared to be a congenital abnormality of the heart as well, it is perhaps remarkable that kidneys of this size and degree of cystic degeneration should not have caused *symptoms*, renal or other, earlier in life. (*b*) That the first symptom produced was intestinal obstruction; this, however, is not very surprising, considering the size to which these tumours had attained. (*c*) That one kidney of the type here shown should be capable of maintaining the renal functions and warding off symptoms of renal insufficiency for some six years and maintaining perfect health. This individual was passed for life insurance having only one kidney, and that polycystic, and appeared to be in good health up to the time that one of the complications of otitis media carried him off. (*d*) Again, the age is peculiar when statistics of published cases are considered, for it is unusually old or unusually young.

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* If this is to be regarded as a [illegible] congenital polycystitis.

The points of interest in the second case appear to be:— (*a*) The age, 62 years, to which this individual attained with kidneys such as those shown without suffering symptoms suggestive of renal disease. This, however, is not uncommon in this condition. (*b*) The problem, Was the acute colitis from which this man died a terminal infection in a chronic uræmic state, or an independent condition? For the evidence of uræmia was very slight. (*c*) The possible part played by gout in the causation of the polycystic degeneration of the kidneys in this case. That is to say, Are we dealing with a *congenital* condition in a man, aged 62 years, the result, let us say, of embryonic failure of union between secreting and conducting parts of the kidney (which has, however, given rise to no symptoms for so many years)? Or is the condition acquired, the effect of, let us say, fibrous proliferation around the tubules, exudation into them, or cicatrisation after nephritis, causing obstruction of the urinary passage (as Morris suggests), and possibly in this case the effect of gout? Any of these causes might cause a polycystic condition such as these kidneys show. (*d*) If the acute colitis from which this man died was a terminal infection in a uræmic state, are we to regard the latter as that of the last stage of polycystic disease or degeneration of the kidney? Or is it to be considered as that of chronic interstitial nephritis, of possibly gouty origin, affecting a kidney already polycystic? (*e*) Or is the condition, *in toto*, one of polycystic degeneration of a granular kidney? There is no note of the condition of the urine. But since the urine may have much the same characters in all the above conditions, its diagnostic value here would not be great. These kidneys show little indication of chronic interstitial nephritis in fibrotic changes, and do not resemble any specimens of cystic granular kidney that one has seen. Further, the arteries are rather small, very little thickened, and not atheromatous. The hypertrophy of the left ventricle was very slight, arterial tension not very markedly increased, and the degree of atheroma and arterial degeneration that was present not more than would be fairly often seen without symptoms in an individual of this age who, like this man, had been a manual labourer all his life. Therefore the hypothesis that chronic interstitial changes, the effect of gout, may have played a leading part in the causation of the polycystic disease of these kidneys must be abandoned. They would seem to be examples of "polycystic degeneration," whether they be congenital in origin or arise from some unknown cause occurring in adult life.

The appearances, macroscopical and microscopical, the clinical features and types of cases, duration of life, frequency and sex incidence of polycystic disease of the kidney, have been very fully described. It is not proposed here to describe anew the structural features as shown by the kidneys of these two cases. But in order to place these in their proper groups a summarised review of the literature seems advisable. For it is in the pathogenesis, at present wrapped in obscurity, and in the clinical features, one and another, of cases that the chief difficulties seem to be.

Frequency.—Garceau quotes Preitz, of Kiel, who found 16 cases of polycystic disease of the kidneys in 10,000 necropsies, or 0·16 per cent. In the records of the Boston City Hospital (1896 to 1906) there were 10 cases in 2429 necropsies, or 0·041 per cent.

Age incidence: that is, time when first observed.—Senator[1] states: "The condition may be seen in the fœtus—i.e., it is congenital—the chief feature of importance being difficulties which it causes in parturition." To this well-known condition Morris,[2] Bland-Sutton,[3] and Garceau[4] also refer in their accounts, which agree in all points. Garceau quotes Boinet and Raybaud, who give a list of 35 cases in infancy of ages from full term to six months of age. Garceau and Senator both state that the disease is more commonly one of middle life, and most cases occur during the fifth decade. (Whether the condition, then, is congenital or acquired is difficult to decide) (Senator, Garceau.) Bland-Sutton, on the other hand, appears to regard all cases in the adult as congenital in origin, while Morris appears to regard cases in adults as acquired. Before the third decade the condition is very rare (Senator). It seldom occurs between infancy and 21 years (Garceau). Senator quotes Luzzatto on this point; the latter observer found only two cases developing between the tenth and twentieth years out of 187 cases. Garceau quotes Seiber, who in 173 cases found the age incidence as follows: Third decade, 26 cases; fourth decade, 22; fifth decade, 67; sixth decade, 40; seventh decade, 10; eighth decade, 6; ninth decade, 2.

Sex incidence.—Senator and Morris state that in adults the condition is commoner in males—"a little more than half." Garceau, on the contrary, states that women are more frequently affected than men, and quotes Seiber, who found, in 198 cases in which the sex was stated, 116 females and 82 males. In the operative cases he states that this proportion is much higher. Thus Seiber found in 70 cases in which an operation had been performed 60 women and 10 men. Albarran and Imbert found in a series of cases 35 women and 10 men.

Unilateral or bilateral?—Nearly always bilateral. Senator quotes Lejars, who found the condition to be unilateral in 1 case out of 60, and Luzzatto whose figures were 41 out of 226.

According to Garceau, there is some preference for the left side, for Seiber in 9 unilateral cases found this to be the left side in 6, and in 46 cases operated upon the figures were 28 left and 18 right.

Hereditary and family cases have been reported by Steiner and Höhne, amongst others.

Association with other malformations.—All observers refer to the frequent association of polycystic kidneys with congenital malformations of various kinds: anencephaly, talipes, spina bifida, atresia of prepuce, imperforate urethra, cleft palate, polydactylism, absence of limbs, imperforate anus, absence of bladder, occlusion of ureters, absence or occlusion of pelvis of kidney, double vagina or uterus, &c. The polycystic condition of the kidneys is also frequently associated with a similar cystic condition of the liver. Senator quotes the figures of Lejars, who found the liver affected in 17 of 60 cases, and those of Luzzatto, which were 19·1 per cent.

Pathogenesis.—Some authorities regard *congenital* cystic kidney as an altogether different condition from the polycystic condition of the adult. Of these, Morris appears to be one. Bland-Sutton, on the other hand, appears to regard them as the same. Senator remarks, however, that the manner in which cyst formation occurs is as obscure in the one case as the other. Garceau regards the condition in the adult and in the infant as having the same pathogenesis, though the conditions show features which are dissimilar at the two ages, and in the adult in some cases the cysts do not date from fœtal life.

The following theories now hold the field: (1) The process is one of new growth, an adenoma or adenocystoma, just as are the hepatic cysts sometimes found in association with polycystic kidneys. This view is held to be supported by the fact that islands of hyaline cartilage have been found (by von Mutach) in the stroma of a renal cyst. This favours the theory of tumour formation and is analogous to the islands of hyaline cartilage found in testicular adenomata, which develop in close proximity to the kidneys (Senator).

(2) The cysts arise from obstruction of the urinary passages. This was Virchow's view. The obstruction is not to be looked for in the larger urinary passages, from the pelvis downwards—for this is usually absent, and, when present, produces hydronephrosis, except when the obstruction develops late in fœtal life—but is due to occlusion by fœtal inflammation of the lower urinary tubules, such as the collecting tubules by concretions, uric acid, calcareous infarction, proliferation of fibrous tissue around the ducts or exudation into them, atresia of papillæ, due to embyronic papillary nephritis or pyelonephritis, for example. With this view Morris appears to agree, for he states that whether they occur in the fœtus or in the adult the cysts are due to

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[1] Professor H. Senator: Nothnagel's Encyclopedia of Practical Medicine, American edition, 1905, vol. vii., pp. 366–76.

[2] Sir Henry Morris: Polycystic Disease; General Cystic Degeneration of the Adult Kidney. Allbutt and Rolleston's System of Medicine, second edition, 1908, vol. iv., Part I., pp. 712–16.

[3] J. Bland-Sutton: Tumours, Innocent and Malignant, fifth edition, 1911, pp. 586–93.

[4] E. Garceau: Renal, Ureteral, Perirenal, and Adrenal Tumours, &c., of the Kidney, London and New York, 1909, pp. 222–53.

obstruction from some such cause as the above But none of these changes have been found in every case, and therefore the following view is held —

(3) That the obstruction is due to arrested or maldevelopment of the kidney. The frequent association with other malformations is held to support this view, as well as the fact that hereditary and family cases have been recorded This arrest might prevent junction between uriniferous tubules and pelvis being established Ribbert holds that

cyst formation, and that these cysts are of two kinds—those of the glomeruli and those of the extremities of the collecting tubules In adults at any rate, the retention is produced by chronic interstitial inflammatory processes in the region of the pelvis, calyces and medullary portion, leading to distension and obliteration of the uriniferous tubules (Senator, Morris, Garceau)

(4) The theory of maldevelopment or arrested development with subsequent new growth upon this (Garceau)

Clinical classification of cases (Senator) *A In the fœtus* —This condition causes difficulty in parturition, stillbirth or death soon after birth from interference with the action of the diaphragm or from complications from the other malformations

B In the adult —Group I A total absence of symptoms Death from other causes and polycystic disease of the kidneys only revealed at necropsy Group II Cases showing symptoms of renal disorder—i e , urinary symptoms, but *these not characteristic of any definite* condition Group III In these there is a renal tumour In Lejars's figures there were only 18 such out of 62 cases (Senator) In most cases the enlargement of the kidneys is insufficient for it to be detected during life

Characters of the swelling —This resembles hydronephrosis but is usually bilateral Fluctuation less usual, and the condition is usually bilateral

Pain —This, the most prominent feature of the second stage, may be slight or severe, present or absent Very occasionally there are paroxysms like those of renal colic (Senator)

Characters of the urine —This is variable and may be *(a)* normal in quantity and composition, *(b)* scanty and of low specific gravity, *(c)* occasionally neutral or alkaline, *(d)* abundant with or without albumin, or containing blood or rosettes resembling leucin

Other observers have divided the condition into stages thus Stages I , II , and III But this is not a practical division clinically, even if it be correct, for the reason that most cases do not appear to follow "stages" in any way that can be discovered during life "Œdema is occasional, cardiac hypertrophy usual and the case may resemble one of chronic interstitial nephritis' (Senator) "Uræmia is the usual termination" ' The general condition may remain undisturbed or may deteriorate ' ' Cachexia is occasional, but fever rare" (Senator) ' The course extends over years, but lacks uniformity in different cases ' "Among the complications are suppuration of cysts, calculus, hydronephrosis, and tuberculosis" (Garceau) "The onset is insidious and duration over years' (Senator, 20 years , Lejars, 15 years)

Our second case falls into Group I , and our first case into Group III , of the clinical classification of cases suggested by Senator *And the maintenance* of good health in this case for six years with only one such kidney seems the more remarkable, since it is stated by authorities (e g , Senator) that by the time the tumour is obvious the course is usually comparatively short, for the reason that so little renal tissue is by that time left for work

Adelaide

UNIVERSITY OF LONDON, UNIVERSITY COLLEGE —A course of four lectures on the Physiology of Vision and Colour Vision will be delivered by Dr F W Edridge Green on Wednesdays at 5 P M , beginning Feb 19th The lectures will be illustrated by experiments and demonstrations They are free to qualified medical men on presentation of their card

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NOTE ON A CASE OF
CHRONIC INTERNAL HYDROCEPHALUS.

BY JAMES RAE, M A , M D ABERD ,
ASSISTANT MEDICAL OFFICER PARK HOSPITAL FOR CHILDREN, HITHER GREEN

THE finding of a clot in the torcular herophili in association with hydrocephalus has apparently not been recorded, and the fact may justify an account of such a case

The patient, a boy aged *4 years 10* months, was the tenth of a family of 13 The father was healthy , the mother "had a cough" and had been an out patient at a chest hospital for several years Three children died from wasting and "consumption of the bowels' , one from convulsions, one from diphtheria, and one was stillborn The patient himself was subject to convulsions during his first year He began to take notice and to talk at about the usual age, and had measles and whooping cough Shortly before his fourth birthday he seemed to become stupid, and at this time his parents thought his head was enlarging He was admitted to Lambeth Infirmary on Dec 14th 1911, and transferred to the Park Hospital for Children, Hither Green, on Nov 27th 1912 On admission his head measured 22¾ in in circumference, and the anterior fontanelle 2¼ in laterally The chest had marked rickety deformities, with an angular projection on the ninth rib of each side just outside the nipple line The arms were spastic and the hands clenched The frontal and the right angular veins were very prominent, and when the child cried the external jugular *veins became half an inch in diameter On the* evening of admission signs of pneumonia appeared on the right side, subsequently extending Death took place on the tenth day after admission

Necropsy —A post mortem examination was made 24 hours after death The right lung was in a state of red hepatisation , the lower lobe of the left lung showed a few scattered tubercles Four bronchia
enlarged and caseating, t
No other tuberculous foci
no pleural adhesions, and not more than 2 drachms of clear yellow fluid in the pericardial cavity When the meninges of the brain were opened a large quantity of clear fluid escaped, and continued to drain away when the brain was removed The cerebrum weighed 31' oz , and when opened out measured 13⅜ in from edge to edge Its cortex was ⅜ in thick, and the corpus callosum ⅛ in , the fornix being a mere film The cornua of the lateral ventricles had the following depths posterior, 1¼ in , anterior, just under 1 in , lateral, only ¼ in The cerebellum medulla and pons together weighed 3¾ oz The veins of the cerebellum and those passing through the right foramen cæcum were much enlarged and tortuous The Sylvian veins also were distended, particularly on the right side The lateral sinuses measured 1 in in diameter, the occipital sinus ⅝ in at its posterior end, and the internal jugular veins ¾ in

The torcular herophili contained a pyramidal blood clot, lying with its apex towards the straight sinus When fresh the clot weighed just under ¼ oz , was 1⅜ in high, and 1 in across its base Its outer surface was a dark golden yellow, except for a deep crimson layer at the base, 3/16 in deep The cut surface was visibly laminated, deep pink in the centre growing paler towards the periphery

This clot is now in the Museum of the Royal College of Surgeons of England, and Mr S G Shattock has kindly sent me the following report on it "As viewed in section the clot is at one pole of a bright red colour , the rest, and by far the chief portion, is devoid of colour, and has a flexible, finely sponge like character Histologically the uncoloured portion consists of a somewhat open felt or tangle of fibrin filaments Scarcely any red cells are present in the meshes,

blood, but this merges into the structure just described, the number of red cells diminishing in the meshes of the fibrinous stroma, until practically none are to be encountered There are no vessels in any part of the coagulum, and no fibroblasts—i e , no organisation is in progress '

As has been stated above, no similar case appears to have been recorded. D'Astros,[*] in the section of his monograph which deals with venous obstruction, does not mention the formation of such clots. Browning[†] has reported the discovery of an organised thrombus, ⅓ in. long, lying in the straight sinus, with another in the longitudinal sinus (? superior or inferior) in a less advanced condition. His patient was a girl aged 6, who died three months after hydrocephalus was first observed.

Hither Green, S.E.

THE ACTION OF SCHARLACH R UPON X RAYED SKIN.

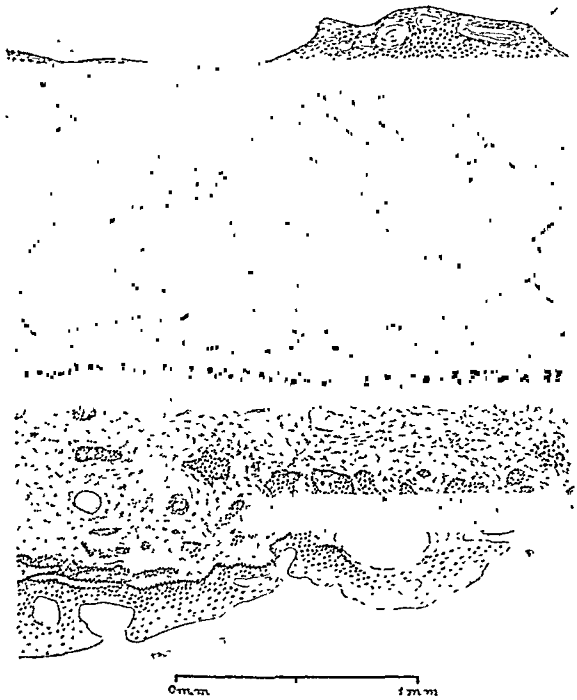
BY J. O. WAKELIN BARRATT, M.D., D.SC. LOND.

(From the Cancer Research Laboratory, The University, Liverpool.—Mrs. Sutton Timmis Memorial.)

IN previous communications the condition of mitosis in epithelium caused to proliferate by the action of Scharlach R[1] has been studied, and also the course of events following upon implantation of such epithelium.[2] The present paper deals with the effect of injection of Scharlach R into the skin of the ear of the rabbit exposed, 2 to 15 months previously, to the action of X rays. In such cases the full destructive effect of the X rays has been produced and the skin has again passed into a stationary condition.

It will be of advantage to study first the change produced by Scharlach R in the X rayed skin of the ear when the amount of destruction effected by the action of X rays has not been sufficient to produce complete disappearance of all the appendages of the skin. These changes are illustrated in Figs. 1 to 4,[3] which are made from two rabbits (A and B) similarly treated. The changes induced by the action of X rays in these two rabbits were of long standing, having been set up 15 months previously, so that at the time of injection of Scharlach R about 80 per cent. of the hairs had disappeared from the portion of the ear X rayed, those remaining being free from pigment, and shorter and finer than those present before the application of X rays. The skin of the ear was thinner than normal, pale and smooth, presenting a somewhat scarred aspect and exhibiting irregular areas of increased pigmentation alternating with areas nearly free from pigment. These changes were more marked on the outer aspect of the ear than on the inner.

FIG. 1.

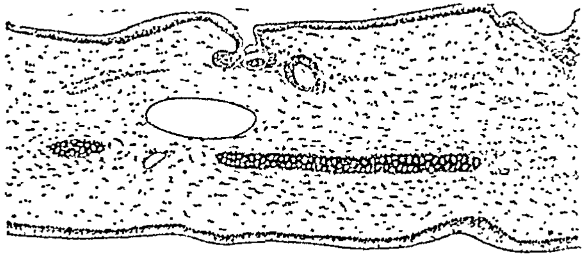


(The scale of Figs. 2 and 5 is the same as that of Fig. 1.)

Section of ear of rabbit A, exposed to the action of X rays 15 months previously. Scharlach R dissolved in olive oil was injected beneath the skin of the outer surface of the ear and later a portion of the injected area was removed for sectioning. Considerable epithelial proliferation has occurred chiefly, but not exclusively, in the epithelium of the outer surface of the ear. Both surfaces are irregular. The nuclei of the cutis vera are increased in number. The upper border of the section represents the outer surface of the ear and the lower border the inner; placed nearly centrally the cartilage of the ear is seen. × 30.

On microscopic examination of the X rayed skin before the injection of Scharlach R (Figs. 2 and 4) it was found that a marked degree of destruction of the hair follicles had occurred. This was greatest in rabbit A (Fig. 2). The hair follicles remaining were diminished in diameter and in length, the former change affecting chiefly the deeper portion of the follicles, which were not unfrequently converted into thin cord-like structures. Most of the papillæ of the hair follicles had disappeared, and, as a rule, hair shafts were absent. In the upper part of the follicles a lumen was present containing epithelial scales, the accumulation of which sometimes caused distension of this part of the follicle. In the lower part of the follicle, in most cases, no lumen was recognisable and the follicle appeared to be solid, being made up of small prickle cells. The mouths of the hair follicles were observable as large openings, usually filled with loose horny epithelium. Sometimes the horny epidermis at, or just below, the mouths of the hair follicles had accumulated to such an extent as to give rise to epithelial collections reaching a millimetre or more in diameter. The sebaceous glands had in part disappeared. The hair follicles were more affected on the outer surface of the ear than on the inner. The surface epithelium shown in Fig. 2 is of about the normal thickness, but is pigmented to an excessive degree. The cutis vera, owing to the small size and number of hair follicles, is thinner than normal, and appears to be made up to a greater extent than usual of connective tissue. The blood-vessels are less numerous than usual; in consequence of this the cellular elements of the corium are fewer than usual.

FIG. 2.



Section of ear of rabbit A, exposed to the action of X rays 15 months previously. The portion of the ear represented lies close to that from which the previous section has been made, but is outside the area injected with Scharlach R. The hair follicles have been, for the most part, destroyed by the action of X rays. The surface epithelium is markedly pigmented, especially on the outer aspect of the ear. A large vein is seen above the cartilage, which does not extend completely through the section. This section should be compared with that given in Fig. 1. × 30.

In rabbit B (Fig. 4) the destruction of the hair follicles is less marked. It is little evident in the skin of the inner surface of the ear (lying below in the figure) in which the hair follicles mostly contain hair shafts of fair size, but in the outer skin of the ear the hair follicles are affected to a greater degree, fewer hair shafts being seen. The epithelial distension of the mouths of the hair follicles referred to above is exhibited in a marked degree. The surface epithelium differs from that in Fig. 2 in not being pigmented to an excessive degree. The number of cells in the corium is not diminished to the same extent as that in the previous animal.

The injection of Scharlach R into the skin of the rabbit's ear, exposed, as above described, to the action of X rays in an

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[*] D'Astros: Les Hydrocéphalies, Paris, 1898.

[†] Browning: New York Journal of Nervous and Mental Disease, 1887, vol. xiv., p. 260.

[1] J. O. Wakelin Barratt: On Mitoses in Proliferating Epithelium, Proceedings of the Royal Society, 1907, Series B, vol. lxxix., p. 372.

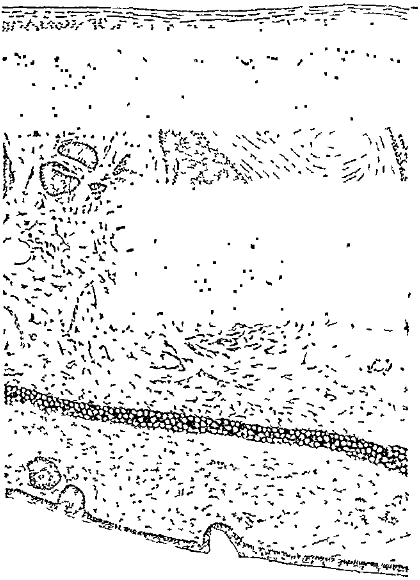
[2] J. O. Wakelin Barratt: Implantation of Actively Proliferating Epithelium, ibid., p. 545.

[3] The tissues from which the sections were made were hardened in Zenker's solution and stained by Heidenhain's iron-alum hæmatoxylin method or with thionin and orange G.

fol ... extreme degree of epithelial proliferation such as occurs in the normal epithelium of the rabbit's ear similarly injected ... increases in thickness at the ... of the horny layer takes place, ... ing on the surface At the en ... the ear may present a warty character, resembling that often exhibited by surface epithelium When the horny epidermal accumulations are removed a moist, irregular surface is exposed; complete removal of the epidermic scales is, however, difficult, for plugs may pass downwards into the proliferated prickle layer, portions of which may be torn off in the course of attempted removal of the horny epidermal accumulations

On microscopic examination of the section obtained from rabbit A (Fig. 1) it is seen that an extreme degree of proliferation of the rete Malpighii and of the prickle layer of the hair follicles has taken place, the proliferation being of two kinds: (1) a simple more or less regular increase in the number of epithelial cells; and (2) an irregular downgrowth or outgrowth of epithelium, produced under the influence of adjoining globules of oil containing Scharlach R in solution and strikingly resembling that seen in epithelioma The epithelial proliferation is marked on both sides of the central cartilage of the ear, but is more marked in the skin of the outer surface of the ear (upper surface in the figure) than in that covering the inner surface. The proliferation of the epithelial covering of the inner surface of the ear was caused by some of the solution of Scharlach R[4] injected into the connective ... the outer surface ... tissue covering ... rabbit B it will be seen that this did not occur) The enlargement of the lumen of the mouths of the hair follicles is obviously due to the very large general increase of the

FIG 3



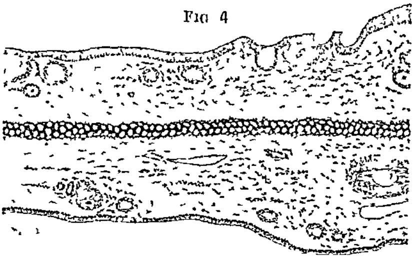
Section of the ear of rabbit B ...

In the lower part no marked change is observable × 30.

... from within due to an accumulation of horny scales, although such accumulation does occur to some extent. No hair shafts are seen in the section.

In the section obtained from rabbit B (Fig 3) the epidermal proliferation is confined to the skin covering the outer surface of the ear, the whole of the Scharlach R injected lying external to the cartilage of the ear, whereby its action was prevented from extending to the inner surface (lower surface in the figure) In this section marked increase of the epithelium of the surface and of the mouths of the hair follicles is observable One of the latter has undergone very considerable enlargement, the mode of origin of which will be understood on reference to Fig 4, taken from the adjoining part of the ear free from Scharlach R, which may therefore be taken to represent the condition of the ear before injection In the latter figure it will be observed that the empty mouths of the hair follicles are, as already mentioned, of large size, though the follicles themselves have become in part atrophied or destroyed The enlargement of the former, when it occurs, is therefore all the more striking In this section, as in that shown in Fig 1, a few sebaceous glands of small size can be recognised. It should be observed that injection of Scharlach R does not cause the appearance of proliferation in the cells of the sebaceous glands.

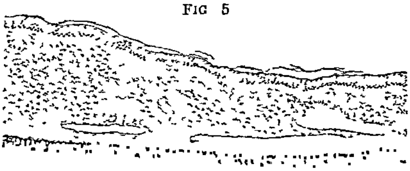
FIG 4



Section of ear of rabbit B exposed to the action of X rays 15 months previously The portion of the ear represented lies close to that from which the previous section has been made, but is outside the area injected with Scharlach R. The hai... case in ... is great ... cartilage ... pared w...

If Scharlach R is injected into the ear of a rabbit which has many months previously been subjected to severe X raying, then a result is obtained which differs in some respects from that above described If the skin of the ear has been sufficiently X rayed, all the appendages of the skin are destroyed, and the corium, which is sometimes thinner than normal, sometimes of somewhat increased thickness, containing a fair number of nuclei, is found to be made up

FIG 5



Section of ear of [illegible]

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[4] Dissolved in olive oil.

of fibrous tissue covered externally by a uniform layer of epithelium, generally thicker than that observed in the normal condition (that is to say, 40μ to 50μ thick, the usual thickness being about 25μ). The condition of such X rayed skin is comparable to that of deeply scarred skin.

After the injection of a small amount of Scharlach R into such X rayed skin proliferation of the surface epithelial covering is observed to the extent represented in Fig. 5. In its character this epithelial increase is similar to the surface increase seen in Figs. 1 and 3. It does not, however, progress much further than is shown in Fig. 5, owing to the fact that the effect of the injection of more than a relatively small amount of Scharlach R is to cause necrosis. The fact brought out by the injection in such cases is, that Scharlach R, as would be expected from the results previously obtained, is still effective when its action is exerted exclusively upon skin exhibiting only surface epithelium, the appendages of the skin having completely disappeared.

FIG. 7.

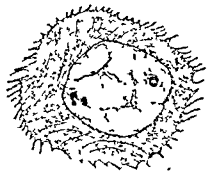


FIG. 8.

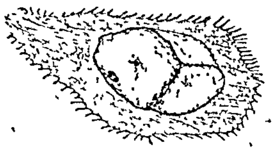


FIG. 6.

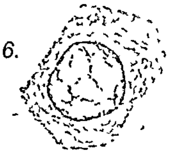


FIG. 9.

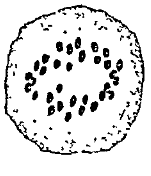


FIG. 6.—Normal prickle cell from Fig. 2. For comparison with the cell shown in the succeeding figure. × 1000.

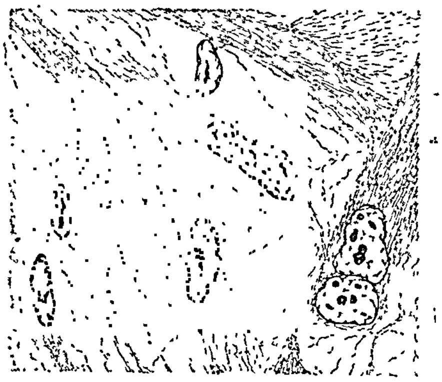
FIG. 7.—Pric[illegible] [illegible]elium shown in Fig. 1. Th[illegible] [illegible]oth nucleus and cytoplasm [illegible] [illegible]imensions. The prickles, w[illegible] [illegible] and drawn out, the prickle spaces being correspondingly increased in size. [illegible] [illegible]cations of the epidermal fibres [illegible]

F[illegible] [illegible] proliferated epithelium shown in Fig. 1, exhibiting fragmentation of the nucleus into three parts. × 1000.

FIG. 9.—Mitotic figure from the proliferated epithelium shown in Fig. 1. The chromosomes, more or less oval in form, are about 30 in number, and are arranged upon the equatorial plane of a spindle (not shown in the figure). × 1000.

The degree of X raying just described represents the limit available for experimental work, the stage beyond being that in which the surface epithelium is broken and sloughing may result. It is, however, difficult to carry out experimental work upon skin of the type shown in Fig. 5, even when the immediate effect of X raying has long passed off, for such skin remains in a condition of lowered vitality and is readily affected by injurious influences.

FIG. 10.



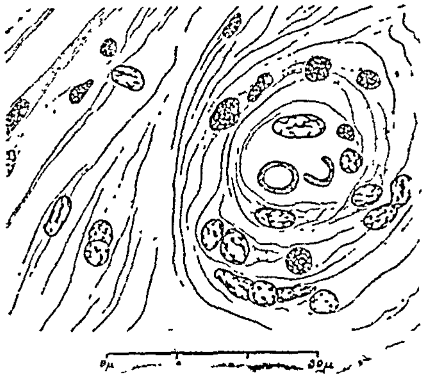
Portion of cutis vera of Fig. 3 more highly magnified Lying upon and among the connective tissue bundles (unstained) are numerous flattened cells, the cytoplasm of which is thin, lightly stained, and spread out upon the connective tissue fibres. × 650.

A marked feature of the action of Scharlach R upon the skin of the ear of the rabbit, subjected many months previously to the action of X rays, is its tendency to cause necrosis, even though the degree of X ray injury may not exceed that shown in Figs. 2 and 4. Blistering of the surface is readily produced, a crust forms, and the area of skin injected may pass slowly into a condition of dry gangrene. Should this occur a line of separation appears at the edges of the injected area, and ultimately the necrotic portion is shed, the ear showing a large hole when healing is complete. Suppuration does not occur, nor is any acute inflammatory process observable. The animal does not scratch the ear, and seems quite unconscious of the occurrence of any morbid process.

The tendency to sloughing is obviously related to the degree of destruction of the epithelial appendages of the ear. Even with slight degrees of X rays, the injection of large amounts of Scharlach R is likely to be followed by vesiculation, while in old X rayed ears in which severe changes have been produced it is difficult to avoid vesiculation, even though only a small amount of Scharlach R is injected. In consequence the opportunities of studying changes in the latter case are somewhat limited.

The characters of the changes in the proliferated epithelial cells following upon the injection of Scharlach R in old X rayed skin of the rabbit's ear are also similar to those following injection into normal skin. The proliferating cells of the prickle epidermis and of the hair follicles are increased in size, the increase affecting all parts of the cells. The nuclei generally measure about 12μ instead of about 9μ in normal prickle cells. (Figs. 6 and 7.) Fragmentation of the nuclei into two or more parts, not however always completely separated, is not uncommon. (Fig. 8.) The prickles are unusually distinct and the prickle spaces large. Indications of the epidermal fibres are more or less obtrusive. (Fig. 7.) Mitosis, which is fairly common, is characterised by the appearance of short oval chromosomes; these resemble those in the reduced division of epithelial cells already described.[5] In Fig. 9, which illustrates their appearance, about 30 chromosomes are present. I have not observed rod-like chromosomes in the sections made. In many of the mitoses the chromosomes were not sufficiently separated from one another to enable the type to be identified. The cells of the sebaceous glands disappeared after the injection of Scharlach R. No pigmented cells were visible, after injection, in the proliferated epithelium of rabbit A, though prior to injection of Scharlach R these were present in considerable numbers. (Compare Figs. 1 and 2.)

FIG. 11.



Portion of cutis vera of Fig. 3 more highly magnified. To the right a blood capillary is seen containing two red blood cells, in optical section. In addition to the endothelial nuclei and the nuclei of the connective tissue, which are lightly stained, several smaller darkly stained free nuclei are seen, chiefly disposed round the capillary vessel. The connective tissue is unstained, but the situation of the larger elastic fibres is partly indicated. × 500.

In the cutis vera, after the injection of Scharlach R into old X rayed skin, the connective tissue was found to be increased in amount (compare Figs. 1 and 2; also Figs. 3 and 4); the nuclei of the cutis vera were much more numerous than before injection. Among the latter large flat cells were obtrusive in rabbit B (Figs. 3 and 10), less so in rabbit A. These exhibited well-defined large nuclei and darkly stained cytoplasm forming thin prolongations, often branched, lying upon and between the connective tissue fibres (Fig 10) In addition to these, large nuclei, similar to the preceding, but not obviously flattened and not surrounded by any clearly defined cytoplasm were common among the connective tissue fibres and in the neighbourhood of the blood-vessels (Fig 11) Nevertheless, the number of free cells lying around the blood vessels was much less than had been observed when the healthy skin of the rabbit's ear was injected with Scharlach R Smaller nuclei, with relatively abundant chromatin, staining more darkly than the preceding (Fig 11), are also met with in considerable numbers lying between the connective tissue bundles and also around blood vessels, the cytoplasm of these nuclei could not be defined, multinuclear leucocytes were unfrequent The blood vessels of the cutis vera were diminished in number in proportion to the destructive effect of the X rays Some increase in the number of blood vessels, limited in degree, took place after injection of Scharlach R, the increase being greater the more vascular the skin was at the time of injection The liability of the X rayed skin to vesiculation and sloughing after the injection of Scharlach R is presumably related to the abnormal structural character of the cutis vera Mitoses of the somatic type are occasionally met with in the cells of connective tissue Mast cells are sometimes encountered, but pigment cells appear to be absent

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[5] Loc. cit., p. 375.

Summary

1 In old X rayed skin of the rabbit's ear the injection of a solution of Scharlach R is followed by epithelial proliferation, which may reach an extreme degree, provided the destructive effect of the X radiation has not been excessive

2 A marked tendency to sloughing is observed when Scharlach R is injected into old X rayed tissues, the tendency being greater the more marked the extent to which the appendages of the skin have been destroyed

Liverpool

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SECTION FOR THE STUDY OF DISEASE IN CHILDREN

Exhibition of Clinical Cases and Pathological Specimens

A MEETING of this section was held on Jan 24th, Mr A H TUBBY, the President being in the chair

Dr ANNE L J KANN showed for Mr DUNCAN C L FITZWILLIAMS a case of (?) Fibro lipoma It was that of a boy aged 2 years and 8 months On examination there were four small swellings, distinct from one another, on the back of the arm and in the axilla They felt fibrous, some being larger than others The axilla was filled with a mass about as large as an orange, which bulged forward the anterior axillary wall and appeared in front under the pectoral muscles It was firm, with well defined edges and slight lobulation It was moveable on the structures beneath and under the superficies There was no impulse on coughing or crying The child was very backward and undersized, with marked signs of rickets The fontanelle was still open

Dr ANNE KANN also showed for Mr FITZWILLIAMS a case of Lymphangioma resembling Hernia of the Lung It was that of a boy aged 6 The mother had noticed that something was wrong with the right side of his neck when he cried She stated th [illegible] was washing the child, [illegible] 12 months ago but she took little notice of it until it began [illegible] three months In November the [illegible] this lasted until the end of [illegible] his mother noticed that the lump got very large in his neck during the spasms of coughing On examination there was a fulness of the root of the neck above the right clavicle and behind the sterno mastoid muscle It was ill defined and quite soft, and small nodules could be felt in it It seemed to disappear under the fingers towards the region of the subclavian artery On coughing or straining the root of the neck filled up and bulged in a prominent manner, and on palpation the tumour again subsided Though breath sounds were heard they were probably transmitted The condition at first sight was extremely like a hernia of the apex of the right lung, but there was no indrawing on deep inspiration, nor could any ring be felt in the deep part of the neck The diagnosis was that the condition was an extensive lymphangioma with large loculi, the greater portion of the tumour being situated in the chest

Dr R C JEWESBURY showed cases of two similar but somewhat unusual heart conditions in sisters 1 Aged eight The mother was told by her doctor that this child's "heart was affected" when she was three weeks old. The child was not cyanosed at birth and had never been noticed to get blue She had suffered from dyspnœa on exertion for the last three to four years, and had complained of growing pains during the last two years There was no history of acute rheumatism The heart was enlarged, its apex beat being in the sixth space in the nipple line There was a systolic murmur at the apex conducted out The second sound was accentuated In the second and third left space a loud, rumbling murmur, partly presystolic and partly systolic, was heard, and a well marked thrill was felt in this position At the pulmonary area a systolic murmur was present conducted upwards to the neck Aortic sounds first sound soft, otherwise normal 2 Aged 10 years No heart disease was ever suspected until she was brought to hospital a few days before She had always been a healthy child There was no history of rheumatism, the heart was not enlarged In the second and third spaces a well marked systolic thrill was felt and over this area a prolonged, continuous, booming murmur was present, very similar to that heard in her sister s case

Mr R C ELMSLIE showed three cases of an unusual form of Disease of the Hip joint—"Calvé s Pseudocoxalgie" 1 A boy, aged 10 In November, 1909, he fell and twisted his right foot, and attended an out patient department for a week and recovered About three weeks later he was kicked on the right hip, which was noticed by the mother to be much bruised, from that time he limped and had occasional pain in the knee, especially after lying down He had no pain at night In the following March he came to the hospital At that time the hip movements were free except full hyper-extension, the limb was ⅜ in shorter than the left, the shortening being above the great trochanter, there was little wasting of the thigh A skiagram showed that the acetabulum was clear and smooth, but that the epiphysis of the head of the femur was a little flattened, its surface uneven, and its upper edge proportionately thicker than it should be, the neck of the femur appeared shorter and thicker than the normal He was kept in bed for three weeks, and the condition did not alter He was then allowed up A fresh skiagram taken in May showed no alteration After this he was kept under occasional observation until February, 1912 during which time the condition did not alter appreciably Subsequent skiagrams showed no important change although the flattening of the epiphysis and the thickening of its upper border became rather more evident 2 A boy aged 8 The parents in this case had not noticed anything wrong, but were informed after a school medical inspection that the boy limped He was brought to the hospital in January, 1912 At that time there was a little limitation of the abduction of the right hip joint most marked in the flexed position, other movements were free The shortening was very slight, not more than ¼ in, and there was a little wasting in the thigh A skiagram was taken, and the appearances were found practically identical with those in the last case The parents were then informed that no treatment would be necessary These two cases agreed as to clinical signs and skiagraphic appearances with Calve s description, but neither was observed in the acute stage described by that author The third case presented however some differences 3 A girl aged 9 At the beginning of 1912 this child had an attack of St Vitus s dance and rheumatism in the right leg In the summer she was an in patient for St Vitus s dance at a hospital She was transferred to a [illegible] ust While convalescent [illegible] noticed for the first time [illegible] pain or disability When she returned from a convalescent home the mother noticed the limp and brought her to St Bartholomew s Hospital in December No injury to the hip could be remembered The right hip was kept flexed, further flexion was free, extension was limited, abduction abolished, and rotation in both directions limited. The limb was ⅛ in. shorter than the left, this shortening being above the great trochanter. A skiagram showed the head of the femur to be deformed in much the same way as in the previous cases, but in addition the upper part of the acetabulum was eroded, and the head of the femur displaced a little upward; the femoral neck was short and thick. This case differed from the first two and from those described by Calvé in the changes in the acetabulum and in the partial upward dislocation.

Dr. J. WALTER CARR showed a case of Congenital Syphilis with enlargement of the liver and spleen. It was that of a girl aged 12. No definite family history of syphilis could be obtained, but the patient was the third child, and her mother had two miscarriages between the births of the second and third children. The girl was born at full term, and there was no evidence that she had any symptoms suggestive of syphilis during infancy. She was in hospital in March, 1911, for syphilitic disease of the soft palate, with pain and difficulty in swallowing. When shown, the uvula was destroyed and the remains of the soft palate were adherent to the posterior wall of the pharynx; there was a perforation on the left side of the palate communicating with the left nostril. The liver was much enlarged, reaching nearly to the umbilicus; it was hard, smooth, and not tender. The spleen was also enlarged and hard, extending about 3 inches below the costal margin. There was no albumin in the urine. There was a slight thickening of the middle third of the right tibia. The eyes were healthy. The report on the blood was as follows: Total red corpuscles, 3,750,000; total white corpuscles, 6500; polymorphonuclear neutrophiles, 61·8 per cent.; polymorphonuclear eosinophiles, none; mononuclears, large 18·7 per cent., small 19·4 per cent. Two nucleated red cells were seen in counting 350 white cells. Hæmoglobin, 100 per cent. Wassermann reaction strongly positive. Lately the child had got thinner and had complained of loss of appetite and diarrhœa.

Dr. CARR also showed a case of Hirschsprung's Disease in a boy aged 9. He was treated about six years ago for severe constipation. Since then he had always been more or less constipated, requiring a great deal of purgative medicine. He was admitted to hospital on Jan. 10th, and for six weeks previously his bowels had only been opened by injections. A number of very hard scybalous masses were felt in the hypogastric region; these had been removed by enemata, but there had been no spontaneous action of the bowels. The boy looked fairly healthy. The abdomen and the lower part of the chest were greatly enlarged, and the increased length between the ensiform cartilage and the umbilicus was very marked. The whole abdomen was very tympanitic, and there was marked visible peristalsis. The liver, spleen, and heart were all much displaced upwards, the heart's apex beat being in the third left space. The rectum appeared to be normal.

Dr. CHARLES W. CHAPMAN showed a case of Arteriosclerosis with absence of both radial pulses in a girl, aged 15. She was admitted to hospital on Nov. 20th, 1912. She complained of cough and orthopnœa on exertion or exposure to cold. There was rheumatism on the mother's side. No special illness until four years ago, when she suffered from loss of power in the legs, with loss of speech, the attack lasting 15 minutes. There were several similar attacks during the following six months. Bronchitis two years ago. She was said to have had chalky lumps on her abdomen last summer. When first seen the area of cardiac dulness was increased in both directions, that on the left side being 9 cm. beyond the mid-sternal line; the apex beat was in the sixth space at the extreme margin of the dulness. The finger-tips were slightly congested. Catamenia not commenced. Teeth very bad. On admission the cardiac dulness was as stated; the subclavians were visibly pulsating, and aortic pulsation could be felt by the finger in the aortic notch, the brachial and radial arteries were hard and devoid of pulsation, the iliac arteries were visibly pulsating, but only feeble pulsation could be felt at the left posterior tibial and not at all on the right; the apex beat was in the sixth space and the action cantering. The liver was enlarged. Urine: specific gravity, 1022; albumin, a trace; sugar absent; no casts or red blood cells. Wassermann negative. Since admission the child had gained weight and had generally improved; the cardiac dulness was diminished, and she could lie down in comfort. There was still a cloud of albumin. The skin on the abdomen was dusky, but no cyanosis or blanching was present.

Mr. SYDNEY STEPHENSON showed a case of Interstitial Keratitis and Osteo-periostitis of the Tibiæ treated with neo-salvarsan. It was that of a boy aged 6. Ten years ago the mother was affected with some nasal trouble, for which she was treated. One child, born prematurely at the seventh month, died when aged 7 weeks from some cause unknown to the mother. There had been no miscarriages or stillbirths. Nine or ten months ago the patient was said to have suffered from "rheumatic pains" in the backs of the hands, shoulders, both knees, and both legs. Just before last Christmas the father noticed a film over the child's right eye, and then found that he could only tell day from night with the affected eye. The patient was admitted to hospital on Jan. 9th last. When admitted he showed no signs of syphilis as regards his face, cranium, or teeth. The inguinal and cervical glands were slightly enlarged and "shotty" to the touch. The skin was in a state of xeroderma. Nodes were present on the middle third of each tibia, being more marked on the right side. The overlying skin was not discoloured, and the swellings themselves were not tender. There appeared to be the remains of a similar node about the middle of the right ulna. The Wassermann reaction was positive. In the right eye there was a trifling ciliary redness and photophobia. The pupillary area of the cornea showed a disc-like interstitial opacity, while the peripheral parts of the cornea were almost clear. The anterior epithelium covering the opacity looked as if it had been breathed upon. The pupil, although the eye was being treated with atropine (2 gr. to the ounce, three times a day), was no larger than 4 mm. It was probably fastened down by posterior synechiæ. Tension normal. Vision, perception of light. On Jan. 20th, 1913, neo-salvarsan, 0·6 grm., was injected intravenously with beneficial effect.

Dr. J. D. ROLLESTON showed specimens of Congenital Renal and Ureteral Anomaly. It occurred in a boy aged 12. Death took place from generalised paralysis, following very severe faucial and nasal diphtheria, on the forty-seventh day of the disease. There were violent attacks of abdominal pain during the last 24 hours of life. Albumin was present in the urine from the third to the thirty-eighth day. The first specimen showed (1) solitary or asymmetrical left kidney, 4¾ in. long, 2 in. broad, 1¾ in. thick, 6 oz. in weight; (2) duplication of ureter, the upper branch, 4 in. long, supplying the upper third, and lower branch, 3½ in. long, supplying the lower two-thirds of the kidney. The second specimen showed union of the two branches of the left ureter 3 in. from the bladder, the left ureteral orifice in the bladder, and a right ureter which was pervious from the bladder to its blind upper extremity. The right kidney, renal artery and vein, and right suprarenal were absent.

Dr. G. A. SUTHERLAND and Mr. H. W. PERKINS showed a specimen of Non-development of Cerebrum. The case was that of a female child aged 9 weeks. The head resembled that of a normally developed infant of this age, the circumference being 13⅛ in. The anterior fontanelle was widely open, measuring 2 in. in the sagittal direction and 1 in. in the coronal. The sutures were not united. On opening the skull a quantity of blood-stained fluid escaped, amounting to 9 oz. On centrifuging this the blood cells were thrown down, leaving a clear supernatant fluid of a straw colour. The dura mater appeared to be normal and the falx cerebri was fully developed and present throughout its whole length. The hæmorrhagic fluid present was apparently in the cavity of the arachnoid. This cavity was partially divided in the occipital region by a few fine, cobweb-like adhesions, present chiefly on the left side. The brain, lying on the base of the skull, was very small and covered with thickened, œdematous-looking pia-arachnoid, which concealed its outline. On the removal of this membrane it was seen that the brain was extremely ill-developed as regards the cerebral lobes. The brain weighed 80 grm. Each cerebral hemisphere measured 9 cm. in length, 6 cm. in width, and 3·7 cm. in depth, taking the maximum measurements. The two halves of the dwarfed cerebrum on each side of the falx cerebri were roughly symmetrical, except that posteriorly into the occipital lobe on the left side a large hæmorrhage had taken place, the clot being recent and unorganised. The middle third of the cerebral cortex on each side presented numerous convolutions, which, although small and narrow, were separated by well defined sulci The anterior parts of the cortex were extremely thinned and so intimately associated with the pia arachnoid that it was difficult to recognise any well marked convolutions or sulci The appearance here was that of numerous small cavities, like a honey comb, bounded externally by the thinned cortex and pia arachnoid Definite convolutions and sulci were present at the posterior pole on the right side, whilst on the left side the posterior pole was the seat of the extensive hæmorrhage referred to above This hæmorrhage formed a roughly spherical clot about 25 mm in diameter, limited externally by the thinned out cortex and pia mater, and suggesting from its appearance the possibility of its having arisen from bleeding into a thin walled cyst The basal surface of the cerebral lobes presented a crinkled appearance, well defined convolutions and sulci being absent The cerebellum, medulla, pons, and peduncles presented a normal appearance All the cranial nerves could be identified, and the blood supply and blood vessels were normal so far as could be determined A transverse section through the right cerebral lobe at the level of the corpus callosum showed that the lateral ventricle was slightly distended, and that the ependyma and choroid plexus were normal The brain substance beneath the ependyma had a spongy, reticulated appearance, and in the floor of the ventricle, beneath the lining membrane, was a small cavity about the size of a pea filled with blood clot The left ventricle was but slightly enlarged The foramen of Monro was patent and normal The third and fourth ventricles were not enlarged, and the patency of the "iter" was established The cortex of the mesial aspect of the cerebrum, when cut into, showed numerous small spaces about the size of a hemp seed The baby was shown at the November meeting of the section

Dr HUGH THURSFIELD and Mr H W SCOTT read a paper on a case of Sub aortic Stenosis

Dr F G CROOKSHANK read a paper on Mongolism

SECTION OF ANÆSTHETICS

Use of Nitrous Oxide and Oxygen in Major Surgery

A MEETING of this section was held on Feb 7th, Dr J BLUMFELD the President being in the chair

Mr H M PAGE read a paper on the use of Nitrous Oxide and Oxygen in Major Surgery A revival in recent years of the interest taken in anæsthesia was attributed to Dr Crile's work on shock The recent work done in America was

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the surgeon was not to be hindered in his work, the strain on the anæsthetist, the cumbrous apparatus and expense were pointed out Against these drawbacks were placed the non toxicity of N_2O the few after effects, and the good condition of the patient at the end of the operation when compared with the other general anæsthetics It was maintained that this favourable condition was found to exist in a proportionately *modified degree even when ether had been added all the time* Regulated rebreathing was strongly advocated Mr Page having found that his patients were none the worse for it, and the administration facilitated The work of the physiologists on the subject of the loss of CO_2 and acapnia was mentioned, and especially the recent work of Yandell Henderson, and it was maintained that account must be taken of it and rebreathing carefully used even if all Henderson's conclusions were not ultimately agreed to Ninety four major operations were brought forward, 51 having been intraperitoneal operations The ages of the patients varied from 5 to 81 years Seven out of these 51 intraperitoneal cases died All of these were desperate cases which were being given the last chance They died a few hours or days after the operation None died immediately The special indications for the method were said to be 1 Desperate cases from toxæmia or traumatism or hæmorrhage, if spinal anæsthesia was not used 2 For operations on *diabetics* It was *to be pre*ferred to spinal anæsthesia or any general anæsthetic 3 In certain genito urinary operations A previous injection of a narcotic with atropine was recommended and failing this atropine alone Induction was recommended to be always done with the addition of ether, and afterwards to return to the addition of ether to get the depth of anæsthesia required rather than to push the N_2O by increasing pressure It was stated that a tendency to cessation of respiration without toxicity and possibly due to loss of CO_2 might be met with and also a true toxicity The most important contra indications were advanced degeneration of the heart and vessels, a marked degree of emphysema and dyspnœa, or obstruction to the air way Deaths said to be due to the anæsthetic had been *reported* Mr Page's opinion was that these dangers and deaths could be avoided by the unremitting attention of a skilled anæsthetist who had seen his case beforehand and deliberately chosen this method, and that $N_2O + O_2$ with or without the addition of ether would then give the patient in certain cases an additional chance of recovery Mr Page then gave a demonstration of Dr Teter's apparatus, recommending that a bag should be added close to the face piece, also

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The PRESIDENT considered that Mr Page had made out a good case for the use of gas and oxygen, and for rebreathing, at least in very dangerous cases He had himself in a few cases used gas and oxygen where it was essential to avoid any toxic effects, and in those his experience agreed with that of Mr Page It was difficult to reconcile the avoidance of the asphyxial element with the view that no diminution must be allowed in the CO_2 content of the blood

Mr H BELLAMY GARDNER said that in 1897 he brought forward the use of gas and oxygen for minor operations—i e, those not involving abdominal section, and in the following year Mr Herbert Paterson used it for a case in an operation lasting 1 hour and 55 minutes Later he (Mr Gardiner) related his experiences with it for larger operations but still excepting abdominal sections It was many times more expensive than the older general anæsthetics, but was particularly indicated for diabetics, in which case it was the most valuable anæsthetic available

Dr H DES VŒUX spoke highly of the anæsthetic in some of his patients whose condition demanded the greatest possible care, and testified to the rapid recovery of consciousness and the lack of unpleasant after effects

Mr H E G BOYLE asked Mr Page as to the relaxation of abdominal muscles when gas and oxygen was the anæsthetic When no other narcotic was given beforehand and no ether added to the gas and oxygen, he found it difficult *to procure such relaxation, but no doubt* it was easier to procure if these additions were made to the gas and oxygen He agreed that it was the best anæsthetic for diabetics, and had given it in three such cases with success for amputations at or about the knee He did not advise it for rectal operations because of the spasm and opisthotonos that occurred

Mr C J LOOSELY had used the apparatus (Dr Teter's) in six cases, all children, with success In one case however, he had to use a *little ether to keep up the relaxation of the* muscles

Mr ASLETT BALDWIN had the highest opinion of this anæsthetic for major surgery, especially when the patient was already partly poisoned by diabetes or sepsis For rectal work he got over the difficulty of the opisthotonos by placing the patient on his side and trussing him up with a *jack towel*

Dr A L FLEMMING (Bristol) exhibited a simplified *apparatus of* his own design and manufacture for giving gas and oxygen, which allowed of rebreathing

Mr PAGE replied

SECTION OF OPHTHALMOLOGY

Exhibition of Cases —The Physiology of Intraocular Pressure

A MEETING of this section was held on Feb 5th Sir ANDERSON CRITCHETT, the President, being in the chair

Mr G COATS showed a case of Congenital Mesoblastic Strand adhering to and penetrating the Cornea He *suggested* that *if in early fœtal life* the amniotic fluid was not sufficiently developed or was too scanty, the amnion might come into contact with eyes which were prominent at the time, and might acquire adhesion to the developing eye

Dr A RUGG GUNN showed a case of Persistent Hyaloid Artery with massive white *formation obscuring the optic disc.*

remarks on the anatomy of the joint, illustrated by lantern slides, Mr. Finch considered the mechanism of the joint. He showed that theoretically a sudden extension from a flexed or semi-flexed position would cause injury to the internal semilunar cartilage. This was confirmed by a definite history of a sudden extension in 44 of the 59 cases. In 7, however, the patient declared that the joint was fully flexed, and in 8 the position could not be ascertained. He briefly considered the symptoms and signs, pointing out that the diagnosis, when the patient came to hospital, was usually based on the history of the accident and the subsequent history of the patient as regards locking of the joint, &c. 25 of the cases were miners who had been injured in the pit; 20 of these had the joint injured by a sudden extension movement. The treatment recommended was operative, and by that he meant removal of as much of the cartilage as possible. In 3 cases where the cartilage had simply been stitched down it had to be removed subsequently. The after-treatment was to let the patient walk as soon as possible with no retentive apparatus on the limb whatever. The cases in which there was any ankylosis had all worn hinge splints subsequent to operation. Of the cases, 56 had injury to the internal cartilage and 3 to the external. Two cases had both cartilages removed from the same joint. The ages ranged from 11 to 56 years. The average duration in hospital was 22 days, the least 7 days, and the longest 37 days. The length of time elapsing after the operation before work was resumed was from 9 days to 5 years. Five had not resumed work, and of these one had marked fibrous ankylosis. In the other four no satisfactory cause could be found for the alleged incapacity. In 10 cases 9 months or more elapsed before work was resumed. In the remaining 44 cases the average time was 4 weeks. In the great majority of the cases creaking was felt in the joint on movement, but in no way interfered with their work. There had been no suppuration. The technique he left for discussion by the members of the society.

Mr. FINCH also showed a specimen of Osteomyelitis and Periostitis of the Right Tibia, removed by amputation from a youth of 16. The specimen showed an involucrum containing sequestra and cloacæ. The supposed cause was a "twist of the ankle" six weeks before admission to the infirmary.

Mr. GRAHAM S. SIMPSON, in a paper on Stone in the Kidney, based his remarks on an analysis of 30 operations for stone; of these, 16 were in the kidney; 4 were in the ureter; there was 1 case of hydronephrosis from stone, and 9 cases of calculous pyonephrosis. Under the heading of the examination, he stated albuminuria was present in 24 of the cases, that obvious hæmaturia was noticed in only 10, that skiagraphy was positive in 20 out of 21 cases, and that cystoscopy was useful in confirming the side of the lesion in 15 out of 19 cases. As regards treatment, he was an adherent of pyelotomy for removing stones, the great advantage being that there was no hæmaturia after the operation in these cases. No case of urinary fistula occurred in this series. Of the ureterotomies two were done by the extra-peritoneal route, one by the transvesical route and one by the intra-peritoneal route. The latter he regarded as an excellent operation. Nephrectomy was done nine times, once for a small contracted kidney full of stones and eight times for pyonephrosis. Only one case died. In this man a nephrotomy was done for multiple stones, and the patient died suddenly on the seventh day, apparently from a pulmonary embolism.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 31st, Dr. A. Freeland Fergus, the President, being in the chair.—Dr. A. Ernest Maylard showed several cases of Cancer of the Colon treated by operation to illustrate abdominal incisions and methods of intestinal anastomosis. The incisions recommended were: (*a*) for exploration, the seat of obstruction in the colon being uncertain—a mid, sub-umbilical vertical incision; (*b*) for cæcum and lower ascending colon—an oblique incision in the right iliac region; (*c*) for hepatic flexure and upper ascending colon—a transverse incision carried outwards from a point situated above and to the right of the umbilicus; (*d*) for transverse colon—an incision carried across the abdomen 1 to 2 inches above the umbilicus; (*e*) for splenic flexure and upper descending colon—a transverse incision carried outwards from a point situated above and to the left of the umbilicus; incisions (*c*) and (*e*) gave access also to kidney tumours; (*f*) for lower descending, iliac, and pelvic colon—an oblique incision in the left iliac region. The methods of intestinal anastomosis illustrated were: (1) by lateral approximation; (2) by lateral implantation or side-to-side union; and (3) by invagination—i.e., pulling a short length of the proximal segment through a longitudinal opening in the wall of the distal. The method to be adopted in any case was determined by the amount of free gut available after removal of the involved segment. Where this was limited the first, where less limited the second, or preferably the third, method was recommended. This last lessened the tendency to leakage in the event of distension of the bowel, and diminished the grave risk of infection at the mesenteric attachment. To prevent distension after operation it was advised that the sphincter ani be paralysed and a rubber tube of large calibre inserted, encircled with iodoform gauze soaked in glycerine. Through this gas could escape freely and any discharges which might result from the irritative effects of the bowel wound.—Dr. Crawford Renton read a short paper on Obstruction of the Bowels. He referred to the various causes of obstruction and recommended the sigmoidoscope as an aid to the diagnosis of tumours in the rectum and sigmoid. In very acute obstruction Paul's or Moynihan's tube was advised to drain the bowel previous to a radical operation. The adoption of this procedure had greatly reduced the mortality. Where cæcostomy had to be done the method recommended by Kader for the stomach had been found useful. For paralysis of the bowel eserine salicylate and pituitary gland were strongly recommended. In the last 33 cases which Dr. Renton had operated on there were three deaths, which was encouraging, and if the operations were carried out early in every case the mortality ought to be less.—Dr. W. Watson read a paper on the Adulteration of Foodstuffs and its Influence on Digestion. The 1901 report of the Local Government Board upon the use of preservatives and colouring matters in the preservation and colouring of food showed that the substances most commonly used were boric acid, borax, salicylic acid, formalin, and sulphites, while a large number of other substances were in less common use. One or other of these was found in 39 per cent. of all samples of food examined, including samples of milk, cream, butter, margarine, sausage, bacon, brawn, potted meat, potted fish, meat extracts, meat juices, and temperance drinks. All these preservatives were germicides, all were gastro-intestinal irritants, and all had a more or less inhibitory action on the gastro-intestinal ferments.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Feb. 7th, Mr. Henry Curtis, the President, being in the chair.—Dr. W. Langdon Brown read a paper on Modern Methods of Diagnosis in Certain Digestive Diseases. Dealing first with the referred tenderness in abdominal disease he showed that the combination of superficial hyperæsthesia over the tenth thoracic segmental area, which includes the umbilicus, with deep-seated epigastric tenderness, was very suggestive of gastric ulceration. Hyperæsthesia in the region of the gall-bladder and appendix should be looked for in all cases of acid dyspepsia, as this might lead to detection of the origin of the trouble. The cutaneous areas of hyperæsthesia were not altered by displacement of the viscera. He then showed a series of skiagrams to illustrate the appearances of the normal stomach and the changes produced by malignant disease, gastroptosis, gastrectasis, perigastric adhesions, spasmodic contraction due to ulcer and the hour-glass stomach, pointing out the great help in diagnosis afforded in this way. The subject of the test-meal was then taken up and the methods of qualitative and quantitative analysis demonstrated. The value of determining the total acidity was shown by reference to the conditions in which the acidity was lowered (acute and chronic gastritis, achylia gastrica, and malignant disease) and those in which it was increased (simple hyperchlorhydria, peptic ulcer, cholelithiasis, appendicitis, and colitis). His opinion was that in such conditions as cholelithiasis and appendicitis the symptoms of acid dyspepsia were apt to be more definite than the test-meal findings. High acidity of the vomit was suggestive of simple pyloric obstruction. The method of examining the stools for occult blood by the benzidene test was demonstrated and its importance in the recognition of ulceration or malignant disease of the alimentary tract insisted on. Continuous small losses were suggestive of cancer, while intermittent larger losses pointed to a peptic ulcer.

Reviews and Notices of Books.

An Introduction to the Study of the Protozoa with Special Reference to the Parasitic Forms By E A MINCHIN, F R S London Edward Arnold 1912 Pp 520 Price 21*s* net

THIS compact volume contains all the main facts with reference to the structure and classification of the protozoa, although it is described by the author as simply an "introduction" There is probably no group of animals in which recent progress has so largely increased the bounds of knowledge as in the organisms of which Professor Minchin treats Thus the problem before him was clearly not how to spin out his work, but how to concentrate and what to leave out This has been partly accomplished by reducing the discussion of dubious questions and by adopting deliberately a "didactic attitude," which is perfectly legitimate in so well informed a student of the group, especially when it is duly advertised in the preface, so that no misunderstanding can occur The huge bibliography of the protozoa is also reduced to a little less than 30 pages, which will seem to the student not so well acquainted with the group a pretty fair list of publications, but Professor Minchin states that such a bibliography, if full, would easily occupy a volume by itself as large as that which now claims our attention By these and other economical methods a comprehensive, but not unwieldy, treatise has been produced, which should furnish the serious student with all that he wants

The book is divided into two parts of approximately equal size The commencement is a general account of the protozoa as a whole, and treats of their anatomy, reproduction, and physiology It is this part which will be most generally read The second half of the volume which is rather the larger, is systematic, and treats of these organisms in order of classification Finally a very few pages serve for the discussion of certain doubtful forms—particularly the spirochætæ—whose position in the system is still hotly debated and not decided. To make of a treatise of this kind a reliable guide to the student it is plain that the newer work by frequently very young writers should receive a due share of attention Here Professor Minchin has not been found wanting, some of his quotations extending even to the year of publication of his "Introduction" As a matter of fact, a quite great amount of the researches carried out among the protozoa is very new This is owing not to the greater efficiency of newer workers as compared with their forerunners, but rather to the discovery of histological methods which render clear structures previously invisible to the older authors The remarkable fact is not how little was known before the last decade or so, but how much the writers of comparative antiquity were able to ascertain with their inferior technique We find, therefore, some references in the bibliography to such writers, but it must be confessed that the vast majority of the entries are of the present century

As would be expected from the title the most copious bibliography relating to any one group refers to trypanosoma and its very immediate allies, it is no less than four pages long It is not unreasonable on the part of the author to devote very marked attention to these and other forms so directly interesting to men on account of their connexion with disease, and Professor Minchin's own work upon the protozoa is almost exclusively in this direction A glance at the bibliography shows a comparative neglect of the non parasitic forms of protozoa, such as the foraminifera and other groups, for which we are prepared by the author's declared limitations of his subject, but which is perhaps to be deprecated if only on the grounds that we must seek in free living forms for the origin of the parasites so fully treated of here Indeed, the expression "protozoology" so commonly used at the present day hardly implies more than the study of trypanosomes and hæmosporidia We must not be understood as in any way withholding admiration for, and appreciation of, the important discoveries of recent years upon the protozoan parasites of the blood, but as simply entering a plea for the less exclusively utilitarian views which are now so little in vogue

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Experimental Physiology By E A SCHAFER F R S, Professor of Physiology in Edinburgh With 83 illustrations London Longmans, Green, and Co 1912 Pp 112 Price 4*s* 6*d* net

THE present volume is based upon "Directions for Class Work in Practical Physiology" published by the author just over a decade ago The matter treated of in that volume is reinforced by additions chiefly dealing with experiments on the circulatory, respiratory, secretory, and nervous systems, having regard to such experiments as may be performed by the student either in class or individually in this country The work is intended for elementary and advanced students but the author does not discriminate between the experiments which are expected to be performed by one or the other grade

The work consists of 30 chapters In Chapter I, under ciliary motion, it might be well to indicate that the epithelium should be scraped from the roof of the mouth of a frog in which the brain has been destroyed Instructions are given on the electrical apparatus commonly employed in physiology, and simple experiments are supplied to illustrate their use The next chapters deal with the nerve muscle preparation, nerveless muscle, recording of a simple twitch and the usual experiments on the work, extensibility and fatigue of muscle, the excitation of muscle and nerve by galvanic stimulus, conduction in nerve, electrotonus electrical conditions of nerve and muscle, and a few experiments on involuntary muscle These subjects occupy somewhat more than half of the text

The frog's heart and the leading experiments on this organ, including perfusion experiments and experiments on the cardiac nerves of this animal, are next described Then follow chapters on the structure and action of the mammalian heart, the blood vessels, blood pressure and the pulse, and perfusion of vessels and lymph hearts, which bring the experiments on the circulation to a close To the mechanism of secretion one chapter—two pages of small print—is given, to include the description of typical experiments on the submaxillary gland, pancreas, mamma and kidney Four pages are allotted to respiration, and short accounts of experiments on nerve roots, reflex action and reaction time are followed by the easily performed experiments on cutaneous gustatory and olfactory sensations and directions for experiments on the dioptric mechanism of the eye and stimulation of the retina A couple of pages are devoted to the production of vocal sound, audition, and the semicircular canals

It will be seen that the author covers the ground required by a medical student to enable him to profit by the instruction offered in his clinical work The directions are definite clear, and precise the experiments well selected, while the illustrations are numerous and are drawn in a bold and striking manner which catches the eye and makes them a marked feature of the book They refer chiefly to instruments and arrangements of apparatus, tracings obtained being practically excluded The work is a concise and excellent presentation of the subject with which it deals

There is a list of contents but no index. For one not familiar with the fixing of tracings it might be well to state the composition of the varnish used.

Diseases of the Nervous System. By JUDSON S. BURY, M.D. Lond., F.R.C.P. Lond., B.Sc. Vict., Senior Physician to the Manchester Royal Infirmary, and Professor of Clinical Medicine in the University of Manchester. Manchester: The University Press. 1912. Pp. 778. Price 15*s*. net.

Dr. Judson Bury's text-book on diseases of the nervous system is written in an essentially modern spirit, and in it are embodied the most recent investigations in the realm of neurology. With over 200 photographs and diagrams by way of illustration, pleasantly written and well printed, the work should find an assured place in English medical literature.

The author's classification of his subject is avowedly clinical, and on the whole we do not think it could be improved on. Clinical grouping of cases and of diseases is the most satisfactory from the teaching point of view, so long at least as their pathology in not a few instances remains obscure. Further, the student commences his exploration of neurology from the clinical side as a rule, and we agree with the author that the correlation of clinical types with the corresponding neuronic lesions is the best way of starting the student on a study from which he is apt, it may be, to be repelled unless he can, as it were, see light from the beginning. Thus the regional diagnosis of nervous diseases and the grouping of clinical symptom-complexes, considered together, will ere long enable him to attain those refinements in diagnosis which are the mark of the expert. We must, further, express our gratification at the bold way in which Dr. Bury has declared his intention of avoiding the terms "organic" and "functional." Nothing could possibly be more misleading, we contend, than the indiscriminate use of the term "functional," especially when regarded as identical with "hysterical." There must be no difference in the student's investigation of these two groups of diseases, even if we assume that they can be differentiated. As a matter of fact, the attempt would be both unwise and reactionary; all nervous disease must reveal itself by impairment of function, and all symptoms in this sense are "functional." Dr. Bury sagely observes that the adoption of this mental attitude by the student will lessen the likelihood of his overlooking the beginnings of serious changes in the nervous system, which may have led to the manifestation of some of the phenomena loosely described as "functional.'

In Dr. Bury's classification we question whether it is expedient to separate clinically "intrinsic diseases of the spinal cord" (Chapter VI.), including myelitis, intramedullary tumours, syringomyelia, spinal hæmorrhage, and compressed-air sickness, from "spinal disorders characterised by the presence of pain" (Chapter VII.), including diseases of the spinal membranes and diseases giving rise to compression of the spinal cord. The assumption would be that the diseases of the former group are not painful, but this can scarcely be maintained in view of the fact that in caisson disease the almost pathognomonic symptom is the well-known "bends" or pains, while intramedullary tumours may certainly, though occasionally, give rise to severe root pains, and, on the other hand, compression of the cord from whatever cause need not be, and is not always, accompanied by pain. In mentioning the common pathological changes in the cerebro-spinal fluid a note might be added on the occurrence of spontaneous coagulation and of a xanthochroic change in various cases of complete spinal compression where circulation of the fluid is interfered with. Dr. Bury states that the order of involvement of cranial nerves in extra-cerebellar tumours is eighth, seventh, sixth, respectively. It is not uncommon, however, to find that after the eighth the sensory fifth is next involved. In the section on infantile cerebral hemiplegia we note that the superficial reflexes are described as generally diminished on the hemiplegic side; it is a curious fact, in this connexion, that in a considerable proportion of cases, for an unknown reason, the abdominal reflex is lively on the affected side.

Dr. Bury's text-book can be put with every confidence into the hands of the student of neurology. For the work bears every evidence of original thought as well as of a widely cultured interest in modern neurological literature; it is thoroughly practical, readable, and accurate, and we congratulate the school of Manchester, wherein the work necessary for its production has been done.

Pathologische Anatomie des Ohres. Von RUDOLF PANSE, Dresden. Mit 208 zeichnungen des Verfassers nach eigenen prepäraten und 4 schemas. Leipzig: F. C. W. Vogel. 1912. Pp. 239. Price, paper, 12 marks; bound, 13.50 marks.

THE publication of a large book devoted entirely to the pathological anatomy of the ear might at first sight appear an ultra-refinement of specialism. A little consideration, however, will show this not to be the case, for nowhere else in the body is there an organ enclosed in dense bone; nowhere else is such special technique required in the investigation not only of abnormal, but even of normal, conditions. Again, difficult of investigation as are the intra-labyrinthine abnormalities and diseases, they have but a modicum of interest to those engaged in the study or practice of medicine, excluding aurists. The result is, that were it not for special treatment, aural pathology would not attract the attention it requires and deserves. The technique is handled clearly and at the same time very briefly, but enough is said in regard to fixing, decalcification, staining, and so forth, after which each part of the aural appendage is investigated from the external ear to the brain. It is, however, chiefly, if not entirely, in the pathological states of the labyrinth that the interest of the book lies, and that without detracting from the merits of the remainder.

For the student of aural disease Professor Panse's book will be quite valuable. As a trustworthy guide and book of reference it is to be heartily recommended, though it is a pity that, like that of so many of his compatriots, his reading appears to be confined exclusively to the writings of his fellow countrymen.

Diseases of the Skin. By WILLMOTT EVANS, M.D. Lond., F.R.C.S. Eng., Surgeon to the Royal Free Hospital and to the Skin Department of the Royal Free Hospital, and Senior Surgeon to the Hospital for Diseases of the Skin. Blackfriars. With 32 illustrations. London: Henry Frowde and Hodder and Stoughton. 1912. Pp. 375. Price 10*s*. 6*d*. net.

IN his preface to this manual Mr. Evans states that it is intended to provide an introduction to the study of diseases of the skin, the standard treatises on the subject being too advanced for those who are beginners. Within the past decade there has been a great increase of attention devoted to dermatology both by students and by general practitioners. Coincidently, therefore, there has arisen a demand for works dealing with dermatology in a less exhaustive manner than is required by the specialist in that subject. To meet this growing need quite a number of short volumes on skin diseases have been published within recent years, and amongst them may worthily rank the text-book under review.

Mr. Evans has arranged the subject matter very usefully, and the brief, yet clear and systematic, account of each disease is admirably adapted to suit the needs of the student Recondite theories and lengthy pathological details are avoided Moreover, the reader of dermatological works is usually bewildered by the large number of remedies recommended in the treatment of skin diseases Mr Evans wisely limits his paragraphs on treatment to one or two prescriptions which he has personally tested and approved

We regret to see that seborrhœa is discussed under the old divisions—seborrhœa sicca and oleosa—introduced by Hebra The recent work of Sabouraud has thrown a flood of light on the causation of seborrhœa and the allied conditions so long confused with it Syphilis is, perhaps, as completely described as is necessary considering the scope of the book, but in a future edition it would, we think, be an advantage to enlarge the paragraphs on diagnosis and treatment This protean disease imitates so many other skin diseases that not only the student but also the dermatologist is frequently puzzled in his endeavour to distinguish it from the clinical appearances of pityriasis rosea, psoriasis, and lupus vulgaris Mr Evans does not enumerate all the points which might be passed in review before a diagnosis can be hazarded in obscure cases where the Wassermann test cannot be applied, indeed, throughout the book the paragraphs on diagnosis of the common diseases could with advantage be extended We find no mention of sporotrichosis or of pseudo pelade, although some even rarer diseases are fully dealt with

The illustrations and the coloured plate are quite up to the standard expected in a modern work on dermatology, and we consider that this manual will prove very useful for the purpose for which it is intended—it will greatly lighten the work of the student by its clearness and simplicity

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Health and Medical Inspection of School Children By WALTER S CORNELL, M D London Stanley Phillips 23, Creighton road Queen s Park, N W , Philadelphia F A Davis Co 1912 Pp 614 Price 12*s* 6*d*

DR Walter S Cornell s book consists of two main divisions the first comprising medical inspection and hygiene and the second a consideration of the defects and diseases of school children in detail In the first or administrative, section we note some interesting differences between American and English practice The United States system is not so definitely organised as is our plan of inspection over here, and a study of the method of work and forms used in this country, and of the relation of our Board of Education to the local authorities, would well repay American administrators On the side of administration the American methods are somewhat primitive, but the lack of centralisation allows of an interesting variety of experiment, and there are many useful hints to be got on this side of the work A daily visit to the schools to see ' special" cases seems usual, routine weighing and measuring are discarded , and unvaccinated children are excluded until they have been vaccinated owing apparently to a much greater frequency of local epidemics

The method of examination of children is much the same as in Great Britain, but as the inspector has no authority to examine the chest, and as the parents are not usually summoned to be present at the time of examination (nor, by the way, are teachers) there is no effective record of chest troubles of spinal curvature or of those heart defects found to be so common at inspections in this country Undressing and examination for "general cleanliness" is classified as "work which is scientific but impracticable of accomplishment ' Twenty children is the number suggested for examination on one day by each inspector Dealing with treatment of defects, we find the same pressure in America as in England toward the provision of treatment by public authorities and in some cities such treatment is now provided Dr Cornell lays it down that each city should retain in its service for treatment and diagnosis, a neurologist, a dermatologist an ophthalmologist and an orthopædist

The administrative suggestions are interesting, and the larger part of the work relating to the special defects dealt with by the school doctor will prove valuable and helpful to all engaged in actual inspection of school children Much space is devoted to the consideration of eyestrain and of mental deficiency The book is well illustrated, and can be cordially recommended to all school hygienists as a useful survey of the clinical conditions to be expected

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The National Insurance Act, 1911 Being a Treatise on the Scheme of National Health Insurance and Insurance against Unemployment Created by that Act with the Incorporated Enactments, Full Explanatory Notes Tables, and Examples By ORME CLARKE of the Inner Temple and Western Circuit Barrister at Law With an Introduction by Sir JOHN SIMON, K C V O M P , Solicitor-General Second edition London Winnipeg, Sydney, and Calcutta Butterworth and Co 1913 Pp 636 Price 12*s* 6*d*

WHEN reviewing the first edition of Mr Orme Clarke s excellent text book it was pointed out that the issue of Regulations would probably render a second edition necessary before amendment of the Act took place, or, what would have amounted to the same thing, before its provisions were tested in the working The inclusion of nearly 150 fresh pages in Mr Clarke s second edition is due principally to the publication of the Regulations and these naturally comprise matter with which all those directly or indirectly concerned in working the Act have to render themselves familiar, or at any rate require within their reach for reference The author has not apparently found much to correct in or add to his notes on the text of the Act , but under Section 16 a note on the interpretation of the word "treatment' has been added, and perhaps before Mr Clarke's third edition issues from the press there will be judicial authority upon this subject In discussing Subsection 2 (B) of the same section a very interesting point is raised as to the limitation of the "research' to which the Insurance Commissioners are authorised to devote moneys provided by Parliament Is it to be research in connexion with tuberculosis only? Mr Clarke is inclined to take the wider construction as right and he submits that the Commissioners may devote money to research in relation to any disease which affects insured persons, and consequently the insurance funds It need hardly be said that the adoption of such a view and the vigorous prosecution of research with the object of preventing disease should be more genuinely economical and should do more to render the National Insurance Act of national benefit than any completeness of organisation or administration for curative purposes only

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Maladies du Pancréas de la Rate et du Mésentère Par G CHAVANNAZ et J GUYOT Professeurs à la Faculté de Médecine Chirurgiens des Hôpitaux de Bordeaux Paris J B Baillière et Fils With 126 figures 1913 Pp 403 Price paper, 10 francs , bound 11 50 francs

THIS is an important section of the Nouveau Traité de Chirurgie of Dentu and Delbet, and it deals with three subjects which often do not receive their full share of notice in treatises on surgery The pancreas has come into the area of surgery only within very recent years , and even at the present time it cannot be said that the surgical treatment of its diseases has reached a perfectly satisfactory level The account given here is excellent, and it not only describes well the present state of our knowledge, but also offers indications of the direction which the surgery of this organ may take.

The clinical examination of the pancreas is fully discussed, and all the tests that have been recommended for the recognition of disease of the pancreas are described. With regard to the Cammidge reaction, the authors limit themselves to saying that though the test deserves to be applied, too much importance must not be placed on the result. The most important chapter is naturally that dealing with the surgery of cysts of the pancreas, for that is the morbid condition for which surgery has the most to offer.

The section dealing with the surgery of the spleen is perhaps even more interesting than that treating of the pancreas. The operation of splenectomy is now performed for a variety of conditions. The authors advise it strongly in Banti's disease; and the statistics in cases not very far advanced and not complicated give a mortality of 18 per cent., which is not very high when the severity of the disease is considered. It is clear that if the best results are to be obtained in this affection the operation must not be postponed to a late stage. In the surgery of the mesentery the part first treated is the effect of the obliteration of the mesenteric vessels, and the tumours of the mesentery are described. The former is a somewhat rare condition about which a good deal has been written in special articles, but which has received but scanty treatment in ordinary surgical works.

Each section of the book has been provided abundantly with bibliographical references. We have found this work on some of the bypaths of surgery very interesting, while its suggestiveness will also make it valuable.

Systematic Case-Taking: a Practical Guide to the Examination and Recording of Medical Cases. For the Use of Medical Students. By Henry Lawrence McKisack, M.D. R.U.I., M.R.C.P. Lond., Physician to the Royal Victoria Hospital, Belfast. London: Baillière, Tindall, and Cox. 1912. Pp. 166. Price 3*s.* 6*d.* net.

Case-taking in the wards is one of the most important and valuable parts of the student's course of clinical instruction, if adequately carried out under systematic methods. Dr. McKisack, in his preface, after pointing out the necessity for personal instruction in the wards in this subject, expresses the view that a methodical syllabus can serve to add completeness and coördination to the student's method of examination. This object his small guide is well calculated to secure, since it is more than a mere catalogue or summary of the procedure concerned in case-taking. Each sign and symptom is briefly but clearly described, together with a short statement of its significance, and in many cases an explanation of its production. The first chapter is devoted to preliminary inquiries, and gives suggestions as to the eliciting of the history, including family history and the history of the patient's symptoms. The general examination is next discussed, and then the various systems and organs are separately considered. In every case the information given is clearly expressed, is well systematised, and is divested of unnecessary technicalities.

Dr. McKisack's book should be a useful companion to the student who is "clerking" in the medical wards, since it affords him a system on which to proceed, and at the same time gives explanations of the conditions observed.

Gynäkologisches Vademekum für Studierende und Aerzte. Von Dr. A. Dührssen, Berlin. With 138 illustrations in the text and 11 plates. Berlin: S. Karger. 1913. Pp. 306. Price 6.80 marks.

There is little need for our commendation of a book which has reached its tenth edition and has been translated into English, French, Italian, Russian, Polish, Turkish, and Greek. The book was originally translated into English by the late Mr. J. W. Taylor and Mr. Frederick Edge, and in this form has no doubt been read by many English students. As Mr. Taylor and Mr. Edge pointed out in the preface to their translation, the work is a clear and safe guide to the knowledge of all the purely gynæcological diseases, and deals very fully with details of the examination of patients, the preparations for operations, and the operations in more general use.

The predilection of the author for the vaginal route in operating is well known, and to him more than to any other gynæcologist are our thanks due for the pioneer work done in this direction. It is not surprising, therefore, that a considerable amount of space is devoted to the various operations which can be performed by this route, and for the surgeon who wishes to obtain a first-hand knowledge of these procedures this little work will prove highly serviceable. Professor Dührssen still holds that a vaginal extirpation of the uterus in cases of carcinoma of the cervix, provided that Schuchardt's incision is employed, gives as good results with a lower death-rate as the extended abdominal operation, and his views on this and on other debatable points in gynæcological practice are naturally of the highest value. A most interesting chapter to the surgeon is the short one dealing with his legal responsibility to his patient. The author describes and recommends Lennander's method of opening the abdominal wall, in which the incision is made to one side of the middle line, the rectus muscle displaced, and then the peritoneum opened medianly; on the closure of the wound the rectus muscle is attached by sutures to its aponeurosis in the mid-line.

There are many other points of interest in this little work which will repay perusal as an expression of the views of one of the most distinguished and original of German gynæcologists.

Die Gallensteinkrankheit und ihre Behandlung vom Standpunkt des inneren Mediziners und Chirurgen. Von Dr. Karl Grube, Professor in Bonn, Arzt für innere Krankheiten in Bad Neuenahr; und Dr. Henry Graff, Professor und Dirigierender Arzt der chirurgischen Abteilung des Marienkrankenhauses auf dem Venusberg in Bonn. Mit 3 Lithogr. tafeln und 20 Textfiguren. Jena: Gustav Fischer. 1912. Pp. 172. Price 7 marks.

This is a very practical treatise on gall-stones, the symptoms to which they give rise, and the treatment which should be employed. After an account of the anatomy of the gall-bladder and the ducts, the various forms of gall-stones are described and the pathological anatomy is discussed. The important subjects of etiology and symptomatology are taken next. The diagnosis and treatment are fully considered. In the latter first comes the preventive treatment of gall-stones; then follows that of acute attacks; the special drugs which are supposed to dissolve gall-stones are mentioned; and of all of them, even of Chologen, from which much has been expected, the authors are able to report nothing of real value. With regard to operative treatment, they consider as suitable for operation: all chronic cases, if the presence of pain interferes with work; all acute cases with acute inflammatory processes and threatening peritonitis or perforation; all chronic inflammatory processes with septic manifestations; all cases with chronic blocking of the common duct; and all cases in which there is a suspicion of malignant disease. The operation should remove every trace of gall-stones, it should clear the biliary passages, and should, so far as possible, prevent the formation of fresh stones. The technique of the operation is well described; most of the incisions which have been recommended for exposing the gall-bladder and bile-ducts are given. The one which the authors prefer is this: They make a longitudinal incision in the outer third of the right rectus, the fibres of which are separated by a blunt instrument, and three fingers' breadth above the umbilicus the incision curves outwards when it can be carried as far as the conditions render necessary The carrying out of the several surgical procedures needed by the conditions found is described Three coloured plates of gall stones and of a dilated gall bladder are given

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Geometrical Optics By ARCHIBALD STANLEY PERCIVAL, M A, M B, B C Cantab, Senior Surgeon Northumberland and Durham Eye Infirmary London Longmans, Green and Co 1913 Pp 132 Price 4*s* 6*d* net

Dr Percival is indefatigable in his endeavours to interest and instruct the medical student in the mysteries of ophthalmic optics As all know, he is a safe guide The present book is an expansion and simplification of the more elementary chapters of his larger work on optics He adopts the analytical method, and the array of algebraic symbols and formulæ will be liable to depress the average student, but we hope they will not cause him to abandon the book in discouragement Optics requires thought and not mere absorption of knowledge and thought requires the expenditure of energy which in this case is repaid with compound interest A formula mastered is a mine of knowledge attained, and those who have passed through the mathematical mill will have gained a conception of the optical problems of ophthalmology which will serve them in good stead in the practical details of ophthalmoscopic work and the correction of refractive errors The intelligent student will have no difficulty in following Dr Percival in his exposition of reflection and refraction of light by plane and spherical surfaces The theory of cardinal points is illustrated by the thick lens and the optical system of the eye The paragraphs on graphic methods require more explanation and are particularly worthy of further elucidation In the appendix the elements of reflection and refraction of oblique pencils are discussed, as well as the circle of least diffusion and deviation by prisms The work is well printed and can be cordially recommended

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LIBRARY TABLE

Annals of Tropical Medicine and Parasitology Series T M, Vol VI, No 4—This number of the Annals contains nine articles upon varied topics some of them being of particular interest The first two are contributed by Dr B Blacklock, and give an account of some experiments on the resistance of the bed bug to various reagents, powders, liquids and gases and another series on the resistance of the tick *ornithodorus moubata* to various sheep dips Dr Blacklock finds no evidence that bed bugs can be cleared out of a house by insecticide powders the same remark applying to liquid remedies, gaseous substances, however offer the best prospect of success sulphur dioxide being cheap as well as effective As regards ticks it appears that when feeding they are not easily caused to loosen their hold by application of sheep dips These dips seem to have very slight effects upon the tick when used in the strength and for the length of time usually recommended —Mr Henry F Carter F E S, furnishes descriptions of three new African species of the genus Tabanus with illustrations —Dr G C Simpson and Mr E S Edie jointly discuss the influence of quinine on hæmoglobin metabolism in malarial fever Increased excretion of urobilin may occur after the administration of quinine in doses of 10 to 30 grains daily A similar result follows injection of blood pigment or hæmolytic drugs Quinine these investigators state possesses the power of determining hæmolysis in the body, though the exact mechanism of its action must be further investigated Individual or pathological idiosyncrasy may exaggerate this action, and so account for the influence of quinine in blackwater fever —An interesting article, illustrated with two plates, on the cultivation of one generation of malarial parasites (plasmodium falciparum) *in vitro*, by Bass's method, is contributed jointly by Dr J G Thomson and Dr S W McLellan, accompanied by a note by Sir Ronald Ross There is indisputable evidence by these investigators of the successful cultivation of plasmodium falciparum up to the sporulating forms —Miss Helen A Adie, of the Malaria Laboratory, Lahore, adverting to a previous communication in THE LANCET of March 30th, 1912 supplies a note (illustrated) on the sex of mosquito larvæ —A joint preliminary communication upon some effects of the occurrence of myxosporidia in the gall bladder of fishes is furnished by Dr H B Fantham and Miss Annie Porter, D Sc, who hope shortly to deal with some of the myxosporidia parasites in greater detail and to discuss more fully the various changes occurring in infected fishes —Dr Allan Kinghorn and Dr Warrington Yorke continue their series of reports upon the work of the Luangwa Sleeping Sickness Commission Upon the present occasion they give further observations on the trypanosomes of game and domestic stock in North Eastern Rhodesia, they also supply, in collaboration with Mr Llewellyn Lloyd, entomologist to the commission an account of their investigations on the development of trypanosoma rhodesiense in glossina morsitans The parasites multiply in a certain proportion of the tsetse flies in the intestine To become infective the salivary glands of the fly must be invaded Dr Kinghorn and Dr Yorke think that probably the salivary glands of the flies become invaded by parasites which have reached a certain stage in their development cycle in the intestine Invasion of the salivary glands was only observed in the case of flies infected with the human trypanosome (T rhodesiense) and not in the case of any of the other trypanosomes with which they had to deal either in the Luangwa valley or on the Congo Zambesi watershed A description of the parasite as it appears in different portions of the tsetse fly is reserved for a further communication

The Students Human Physiology a First Year s Course in the Practice and Theory of the Subject By ERNEST EVANS Natural Science Master Technical Institute, Burnley With 113 illustrations London George Allen and Co Limited 1912 Pp 304 Price 5*s* net —This book it seems has been prepared with the object of showing how a complete course of instruction in the practice and theory of the more elementary parts of human physiology can be given and it is said to contain all the essentials for a first year s course in the subject It is meant for use in schools Much of the teaching is vague and some quite incorrect as it stands however good the author s meaning may be ' The modern science of physiology,' he says, "was established in the sixteenth century by Harvey when he discovered the circulation of the blood Harvey s famous work was published in 1628 The mistake is made throughout of confusing "fixing' of tissues with "hardening ' ' The heart is placed in the middle line of the thorax , "on the upper surface (of the stomach) or lesser curvature the liver rests and on the lower or greater curvature comes the pancreas , ' the blood during its passage through the body is propelled from the ventricles to the auricles by the contraction of the heart , a capillary is a small tubular opening in connective tissue ', the position occupied by the coronary arteries shuts off much of the high pressure which exists in the aorta We have taken these instances at random As to the illustrations, some of them are, to say the least not illustrative such as a transverse section of the neck the fibro cartilage of a cow s ear and fibrin network The diagram of the circulation of the blood (p 104) shows the portal vein springing from what is called systemic

In the year 1911, before notification was universally compulsory, about 35,000 cases of tuberculous phthisis were known to exist in this country, 13,000 of which occurred in Poor-law practice, 12,000 were notified under the new hospital regulations, and 10,000 were reported under local Acts or by voluntary arrangements. Dr. NEWSHOLME expresses the belief that the enforcement of notification of all recognised cases of the disease from the beginning of 1912 will furnish more complete information of its incidence than has previously been obtainable. Although the experience of the first quarter under the new *régime* probably represents a considerable accumulation of cases, it is interesting to learn that within the first three months of 1912 more than 38,000 cases of pulmonary tuberculosis were notified in England and Wales. We now also know from a valuable report of the Public Health Committee of the London County Council that during 1912 there were 33,444 cases of tuberculous phthisis notified in the county, while it is estimated that there are in the area 50,000 persons suffering from tuberculosis. A complete scheme for dealing with this mass of disease has been prepared, and similar steps are being taken all over the country to make diagnosis, prevention, and treatment go together upon a coördinated and economical plan. So that if much remains to be done, at any rate, much is doing.

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The History of the Enzyme.

THE belief was expressed more than a decade ago that the group of unorganised ferments which it is now agreed to call enzymes probably played an important rôle in the defence of the human organism against pathogenic micro-organisms, and further, that their action possibly as proteolytic agencies went so far as to destroy toxins. Our knowledge has developed a great deal since, and modern researches have advanced along lines which have strengthened this belief, for at the present time the view rapidly gains ground that the enzyme furnishes a factor of the utmost biological importance to the human organism. For us, the great interest attached to the enzyme is, of course, its function in the human host, but it is curious to reflect that the first really serious study given to these mysterious manipulators of molecular alignment arose not out of pathological curiosity, but from a consideration of certain changes occurring in industrial processes. The story of the enzyme was developed during the study of alcoholic fermentation, and we owe most of our knowledge of the occurrence and mode of action of the enzyme to the brewing industry. To know the pathology of beer was of vital importance to the success of the brewer, and the question was attacked with such perseverance, skill, and activity that it is doubtful whether at the present time any other industry stands on a sounder or less empirical basis than brewing. The pathology of beer was, in fact, studied with such success that the diseases to which it was in the old time heir are now practically eliminated—at all events, in the hands of the progressive technologist. The enzymes concerned were, in the first place, diastase of malt, and, in the second, zymase of yeast. It was the study of the latter enzyme which demonstrated how misleading was the distinction between organised and unorganised ferments. The vitalistic theory of ferments was badly shaken when it was shown that it was not the cell but the secreted substance of the cell which effected the changes summed up in the term "fermentation." The inference of this was that the work of the enzyme is chemical and not physical, and attention forthwith was given to the part played by the enzyme in intracellular metabolism.

At one time the list of ferments was a comparatively small one. The enzyme diastase (or amylase, according to modern nomenclature), which was found to be responsible for changing starch into sugar, as in the brewing process, is probably our oldest acquaintance. It was first observed in 1814, and in 1831 it was discovered that saliva possessed a similar property which we know now to be due to the enzyme ptyalin. A similarly acting enzyme was found in the pancreas in 1845 and in the intestinal juice in 1895, so that the existence of animal diastases was established. The more complicated lysis of proteins, as performed by pepsin and pancreatin or trypsin, does not appear to have received serious attention until 1860. Enzymes were afterwards isolated from plants which showed a similar hydrolytic action, and then the hydrolysing action of acids simulating enzymes upon both carbohydrates and proteins came prominently into notice. In the present day we seem to be going a step farther, for it appears that the work of hydrolysis can be done by metallic ferments, colloids, or by radiations, in the form of ultra-violet rays, or radium emanation, all of which has vast suggestion in the treatment of disease by certain modern methods. It is probable that the list of enzymes with which we are now familiar is only a small representation of the number of these activities which actually exist both in the animal and plant kingdoms, but at the present time we may say broadly that some fifty distinct varieties have been recognised of which the individuality and mode of action have been made clear. Since little is known concerning the nature of the enzymes, their classification so far is based on the chemical reactions which they bring about. The modern nomenclature of the enzymes is of interest. It is generally agreed now to give them the termination "ase," as, for example, lactase, the enzyme which converts lactose into galactose; lipase, the enzyme which converts fat into fatty acids and alcohol. The substance acted upon, which gives the root name to the enzyme, is called the substrate. The terminology adopted has exceptions in the classic examples of pepsin and trypsin.

It is extraordinary what a variety of actions the enzymes are capable of performing. Thus, in addition to those already mentioned, there are enzymes which convert urea into carbon-dioxide and ammonia (urease); further, there are those which oxidise purins, alcohol, aldehyde, phenol, tyrosin (the oxidases); another group sets free oxygen from hydrogen peroxide (the peroxidases and catalases, the action of which is analogous to that of the colloidal metals); again, there are enzymes which convert cellulose into sugar, as in the digestive process of graminivorous feeders (cellulase), and enzymes like chymosin which effects the clotting of milk, and thrombin, which coagulates fibrinogen into fibrin in the blood Then there are the synthetic enzymes, which build up just those molecules which, *it would seem, they are unable to break down,* while some enzymes are able, like the toxins, to cause the production in the living organism of antibodies which retard the action of the enzymes Anti enzymes appear to behave like enzymes in the role of organic catalysts, and the relations between enzymes and anti enzymes are identical with those between toxins and antitoxins The specifically acting secretions produced in the organism in the presence of enzymes by immunisation belong to the group of anti enzymes On the other hand, and lastly, there are the co enzymes or activators, without whose coöperation the enzymic processes do not take place, and which, in fact, accelerate a reaction A good example of activators is enterokinase, the constituent of the intestinal liquid which activates tryptase or trypsin, as was demonstrated in the researches of PAWLOW, BAYLISS, and others Yet another fruitful study is that which is disclosing a group of substances which protect the enzymes on the one hand and those which, on the other, act as "paralysors," inhibiting agents, or poisons

Step by step, thus has the edifice of enzymology grown to its present developments, and how important the results of its study have become must be admitted in view of the relationship which recent researches have shown to exist between the action of the enzymes and the pathogenicity of the disease producing organism It is clear, at all events, that certain enzymes in the human host exercise a profound influence upon the metabolic processes, and it is well, therefore, to refresh our memories with the links in the chain of events, the connecting of which has led to the recognition of a great biochemical system which must in future be reckoned with in any scheme of progressive medicine

Heart Disease in Children.

THE discussion which recently took place at the Royal Society of Medicine in the Section for the Study of Disease in Children on the subject of Heart Disease in Children a full report of which appeared in THE LANCET of Jan 4th, and also in the January number of the Proceedings of the Society, contains matter which deserves the attention of all practitioners of medicine, general and consulting It is interesting both for the evidence it affords as to the consensus of opinion which exists on certain aspects of the question which are hardly enunciated with sufficient emphasis in medical text-books, and for the arguments for and against some more novel views which have not yet obtained universal recognition Among the accepted opinions we may note the view that rheumatic fever in children affects not only the endocardium, on which lesion most emphasis is usually laid but also the muscular substance of the heart, and further, that it is almost as essentially a disease of the heart as it is of the joints Consequently it is to be assumed that there is some affection of the cardiac muscle in all cases, even when none of the accepted signs of such involvement are to be discovered The influence of this view on the treatment of the disease is noteworthy, as it involves the enforcement of a prolonged period of complete rest even after the fever and symptoms of the malady have subsided It can hardly be doubted that such care is urgently called for in all cases of acute rheumatic disease in children, and that many of the cases of chronic incurable valvular defects which are at present so common, especially in hospital practice might have been avoided if the original illness had been more efficiently treated Unfortunately not only has the need of prolonged rest been unrecognised in the past, but the insidious nature of rheumatic infection in the young has been disregarded, and such symptoms as fever, anæmia, and slight pains in the limbs have been neglected both by parents and doctors, the child being said to suffer from the mythical condition of “growing pains” or the favourite domestic ailments, bilious attacks and sore throats

As to the treatment of acute rheumatism when recognised, useful advice is to be found in this discussion, the invaluable rest in bed being assisted by low diet of a vegetable nature by adequate purgation, by diuretics, and by salicylate of sodium Whether this last remedy has any *efficacy against cardiac involvement is a question upon* which different speakers held divergent views and it is probably wise to avoid heroic doses of a depressant drug if the heart's action is unsatisfactory Nevertheless, in view of the remarkable effects of this drug in reducing fever and articular troubles it is natural to credit it with some efficacy against the same toxin in other tissues, *and it seems advisable to give it a trial in cases of acute* cardiac involvement which are definitely rheumatic in origin A similar doubt prevails as to the utility of digitalis in cases of myocardial disease, the older view being that in such conditions the muscle cannot respond to the stimulant while more recent practice seems to favour a trial of some preparation of digitalis even when there is proof of myocardial affection It should hardly be necessary to point out the uselessness or worse of ordering digitalis as a routine treatment in all cases in which a cardiac murmur is heard, however good the compensation that exists, but experience shows that there is still a tendency to regard the drug as a panacea for all valvular lesions, whatever their nature and whatever the general condition of the circulation, so that a repetition of the warning may not be useless The value of local applications to the chest wall is another subject on which opinion is divided In cases of pericarditis the balance of opinion is probably in their favour On the other hand, it is difficult to believe that the application of an ice-bag or a blister can affect a condition of inflammation of the endocardium Nevertheless, these remedies have their defenders A point on which opinion was even more divided, and as to which the truth can hardly be said to be established, was the question as to the existence of functional disorder of the heart in children This was stoutly affirmed and denied, some speakers regarding almost all irregularities of rhythm as indications of myocardial disease, others holding that they were frequently of little importance Probably the truth lies as usual between the extreme views It is necessary to distinguish the different groups of cases in which irregularities of rhythm occur, those which are purely

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SOFTENING OF THE SPINAL CORD IN A SYPHILITIC AFTER AN INJECTION OF SALVARSAN

A young man aged 23 received from June 1st to Sept 3rd, 1908 a series of intramuscular injections of corrosive sublimate for a syphilitic roseola which had followed on a typical indurated sore On March 24th 1910 he returned because of a cutaneous syphilide and extensive adenitis and was treated with similar injections for six days Then instead of them he was given two injections of salicylate of mercury a week intervening between these He was seen again on May 30th, 1911, adenitis being still noted and on June 10th at noon 0 3 gramme salvarsan was injected into each buttock At the time there were no manifestations of syphilis whatever except the condition of the glands On the evening of June 12th having been perfectly well in the intervening 56 hours, the patient felt a numbness in his legs and fatigue in them, and soon after had difficulty in passing urine During the next day the condition rapidly advanced and on June 14th there was a complete motor and sensory paraplegia With bladder and rectum paralysed and bed sores and other trophic disorders setting in his condition was serious from the beginning and in spite of every effort he died on August 29th Subsequent pathological examination showed an acute syphilitic softening at the level of the fourth and fifth thoracic segments the morbid change being more advanced in the postero lateral columns than in the anterior Meningeal and vascular lesions were marked throughout Such is the history as given by Dr Leo Newmark of San Francisco (who was called in consultation) in the *American Journal of the Medical Sciences* for December last and the question naturally suggests itself If a young man who has been infected with syphilis three years previously presents the first symptoms of a fatal softening of the cord 56 hours after an injection of salvarsan is the drug in any way to blame for the condition which followed its injection? There is no doubt, of course that clinically and anatomically the evidence in favour of the sufficiency of syphilis to produce the disease of the cord is complete and there would appear to be no room for the intervention of salvarsan Moreover, if the close sequence of drug and disaster as Dr Newmark says impresses us with a sense of cause and effect it must not be forgotten that occasionally serious damage to the central nervous system has followed an injection of mercury But long use of mercury has shown such incidents to be so rare as to be negligible whereas there is to-day a growing list of affections of the cranial nerves brain or cord subsequent to the administration of salvarsan Dr Newmark is inclined to admit that the salvarsan in his case was somehow an agent in the final result and adduces the Herxheimer reaction as a possible explanation

THE ALL-INDIA SANITARY CONFERENCE

At this important gathering held in Madras from Nov 11th to the 14th last—a brief report of which we begin this week from our Indian correspondents—the subjects for discussion were considered in two sections a medical and an engineering section, which also met jointly Sir Harcourt Butler the Member for Education on the Governor General's Council presided and there was a full attendance of delegates from all parts of India and Burma In his opening address the President alluded to the recent reorganisation of the offices of the Director General, Indian Medical Service and of the Sanitary Commissioner with the Government of India and to the development of the sanitary service generally Large grants will be made for antimalarial measures during the past year more than two lakhs of rupees have already been allotted in the United Provinces, Bombay Bengal and Madras in aid of investigations into the conditions causing malaria, and of antimalarial schemes, in future such financial assistance will only be given for actual works of amelioration or removal of malarial conditions An interesting paper was read by Mr E G Turner on Town Planning in Bombay the lines on which this is being carried on are a combination of the German principle of "redistribution (which gives power to alter the shape of holdings of land so as to render them more suitable for building plots) with the English principle of "betterment (which enforces contributions from owners towards the cost of a scheme in proportion to the extent to which their land is bettered by the completed scheme) Mr J P Orr chairman of the City of Bombay Improvement Trust read a very practical paper on Light and Air in Bombay In that city of 980 000 inhabitants 85 per cent of the population live in single tenements The Improvement Trust had only touched 10 per cent of the congested areas The difficulties are enormous but under Mr Orr's guidance great amelioration is rapidly being effected He laid down that partial improvement was no good A standard must be fixed and rigidly adhered to obstructive dwellings must be removed new building operations controlled and great improvement made in the admission of light and air Among other subjects dealt with were the scope of preventive measures against plague the recent diminution in enteric fever prevalence the treatment of urban water supplies and sewage and refuse disposal according to recent methods as at present carried out in India

CIRCUMSCRIBED PERITONITIS DUE TO INTESTINAL PERFORATION IN TYPHOID FEVER

That perforation of a gastric ulcer sometimes produces only local peritonitis and adhesions is recognised but a similar condition as the result of perforation of the intestine in typhoid fever is not well known At a meeting of the Société Médicale des Hôpitaux of Paris on Dec 13th last M Ch Achard and M G Desbouis reported the following case A man aged 31 years was admitted into the Necker Hospital on Sept 16th 1912 complaining of diarrhœa and abdominal pains from which he had suffered for a fortnight His illness began on Sept 2nd with pains in the right iliac fossa, rigors fever and vomiting For some months previously he had lost flesh and suffered from a persistent cough and night sweats At the time of admission his wife and two children were under treatment for typhoid fever On admission he was in a prostrate and somnolent state The tongue was normal and the breath was fœtid The abdomen was a little tense but showed no tender spot gurgling in the iliac fossa or rose spots The spleen was enlarged At the apex of the right lung there were signs of a softening tuberculous lesion The pulse was 98 strong and hard The temperature was 101 5° F On the 17th four or five rose spots appeared on the flanks and on the 18th there was an abundant eruption and the abdomen was distended The serum reaction was positive The patient remained in a state of complete adynamia and the temperature fell to 100°, while the pulse rose to 120 On the 23rd he was seized with violent pain at first above and to the left of the umbilicus then rapidly spreading to the whole abdomen Nausea and porraceous vomiting followed The abdomen became hard very tense and very tympanitic and the hepatic dulness completely disappeared The diarrhœa ceased the temperature fell to 98 2° and the pulse was 150 and filiform On the 25th there was absolute constipation and micturition was impossible Very fœtid vomiting occurred four or five times, and on the last occasion it was almost fæcal. There was also hiccough. The patient's condition was considered too grave for operation; opium was given and ice applied to the abdomen. He remained in this state on the 26th and 27th, the vomiting being a little less frequent. Liquid was found in the flanks. On the 28th the vomiting had ceased, the abdomen was more supple, and dulness could no longer be found in the flanks. Urine had been passed. On the 29th the constipation had ceased and the mental condition was improved, he could answer questions better, and the abdomen was perfectly supple. On the 30th the general condition was satisfactory, the temperature was 99·3°, and the pulse was 96 and good. The stools were formed. On Oct. 1st the patient complained of pain in the ear, and the left parotid gland was found swollen and tender. The temperature had risen to 100·4°. On the 2nd the right parotid was similarly affected and torpor had recommenced. The temperature was 100·4° and the pulse 140. On the 3rd the patient died comatose. The necropsy showed tuberculous infiltration of both apices and a cavity of the size of a walnut at the right. The coils of the ileum were agglutinated into a mass in the right iliac fossa. This mass was partitioned by adhesions. On carefully breaking these, eight perforations were found within a distance of 12 centimetres from the ileo-cæcal valve. They varied in size from the head of a pin to a 50-centime piece, and were closed either by mesentery or adhesions to neighbouring coils. The spleen was very large and diffluent. In this case all the symptoms of perforation occurred with characteristic suddenness—violent abdominal pain on the left side, vomiting, hiccough, abdominal rigidity, meteorism obliterating the hepatic dulness and followed by dulness in the flanks, retention of urine, arrest of diarrhœa, sudden fall of temperature, and frequency and smallness of pulse. These symptoms disappeared, formed stools were passed, the temperature and pulse became normal, urine was passed in abundance, and the abdomen regained its suppleness. All seemed going on well until the attack of double parotitis. The necropsy revealed only circumscribed peritonitis and eight perforations undergoing cicatrisation. This case shows that grave symptoms of perforation may disappear rapidly, and that even multiple perforations may produce only localised peritonitis tending to recovery. Spontaneous recovery from certain intestinal perforations has been known for a long time. Chantemesse insisted in 1908 that this could be produced by adhesion to the omentum.

ATMOSPHERIC POLLUTION.

AT the conference of delegates of local authorities and learned societies convened by the Coal Smoke Abatement Society in connexion with the International Smoke Abatement Exhibition in March last, attention was drawn to the desirability of steps being taken to decide upon and secure the general adoption of a standard method for the measurement of atmospheric pollution by smoke and other products of combustion and dust. A committee was appointed "to draw up details of a standard soot and dust measurement apparatus and methods of its use." The committee is presided over by Dr. W. H. Shaw (Director, Meteorological Office), and its other members include Dr. John Owens, Dr. H. A. Des Vœux, Dr. R. Lessing, and Mr. F. G. Clark (representing the Coal Smoke Abatement Society), Professor J. B. Cohen (Leeds University), Bailie W. Smith (convener of the Air Purification Committee of the Glasgow Corporation), Dr. Hawksley (assistant medical officer of health, Liverpool), Mr. J. B. C. Kershaw (Hamburg Smoke Abatement Society), Mr. S. A. Vasey (THE LANCET), and Mr. E. D. Simon (Smoke Abatement League). The method of investigation, which, after full inquiry, has now been adopted by the committee as most likely to give satisfactory results is that used in the inquiry, conducted in 1911-12 under the auspices of THE LANCET, with the object of ascertaining the degree of pollution of the atmosphere in and around the metropolis. The standard apparatus recommended takes the form of an enlarged rain gauge, having a catchment area of 4 square feet, which receives all rain, soot, and other matters falling thereon, and deposits them in a large bottle, the contents of which can be regularly analysed. The committee's report and recommendation have recently been submitted to all important cities in the United Kingdom, with the result that Birmingham, Bradford, Glasgow, Leicester, Malvern, and Newcastle-on-Tyne have already agreed to set up the standard apparatus in accordance with the committee's advice, and a large number of other towns are favourably considering the proposal. The importance of obtaining on a standardised system reliable information as to the state of the atmosphere in different parts of the country can scarcely be over-estimated. The results will, it is hoped, throw light upon the purity or pollution of the air in different localities. They are also expected to give explanations of the prevalence of chest diseases in certain districts, and will record in a uniform and scientific manner the effect of efforts to purify the air from smoke, sulphurous gases, dust, and other noxious matters. Dr. John Owens, 47, Victoria-street, Westminster, is acting as honorary secretary to the committee.

PASSIVE HUMAN CARRIAGE OF THE VIRUS OF POLIOMYELITIS.

IN the *Journal of the American Medical Association* for Jan. 18th is a brief note by Dr. Simon Flexner, Dr. Paul F. Clark, and Dr. Francis R. Fraser, of the Rockefeller Institute, concerning the question of poliomyelitis carriers. A little girl, aged 4 years and 4 months, was admitted to the hospital of the Rockefeller Institute on Oct. 18th, 1912, less than one week from the development of an attack of poliomyelitis involving mainly the lower extremities. On Oct. 28th the mother and father of the patient were subjected to a naso-pharyngeal irrigation with normal saline solution. Some 150 c.c. of fluid were collected, shaken, and pressed through a Berkefeld filter. The fluid was forthwith injected into a macaque monkey, 1·5 c.c. into each sciatic nerve and 140 c.c. into the peritoneal cavity. On Nov. 11th the animal was noted to be excitable and to drag the right leg, and the next day both legs were definitely paresed. A leucocytosis was found in its cerebro-spinal fluid. On the 13th it was killed under an anæsthetic, when the spinal cord was seen to be œdematous, and sections subsequently were found to present the typical lesions of experimental poliomyelitis. On Dec. 3rd an emulsion of the glycerinated spinal cord of this monkey was injected into each sciatic nerve and into the peritoneal cavity of two other macaques, which in their turn, after an interval of 10 and 16 days respectively, were found to be paresed or paralysed in the legs, and in each instance the typical infiltrative lesions of poliomyelitis were found in the spinal cord. From these experiments it may be fairly concluded that the washings from the naso-pharynx of the parents, neither of whom showed any symptoms of illness and were not suffering from the disease, contained the virus of epidemic poliomyelitis. Thus an experimental basis has been established for the belief, based on clinical observation, of the occurrence of passive human carriers of the infection. The obstacles in the way of demonstrating this important phenomenon experimentally have been considerable. At present the sole means of detecting the virus is by its implantation in monkeys, and it is known that the initial infectivity for monkeys of human strains of the virus varies greatly Large quantities of an emulsion may be required for inoculation It is to be presumed, further, that passive carriers will harbour the virus in smaller amount than persons actively ill with the disease And, again, saline washings of the naso pharynx must dilute the virus materially In view of these facts, experimental failure is more likely to occur than is success, but at the same time they give to a successful result an intensified value

THE AFRICAN BLACKWATER FEVER INQUIRY

IN THE LANCET of Jan 25th we made some observations upon a series of reports on blackwater fever forwarded from some of our tropical African colonies to the Colonial Office, being contributions to an inquiry which has been instituted by the Secretary of State into the nature and causation of that disease Since then another report[1] has been published separately dealing with the disease in Southern Nigeria and prepared by Dr W M Graham director of the Medical *Research Institute at Lagos In this report the scope of* reference indicated by the Colonial Office has not been strictly adhered to, instead, in view of the importance of the subject and the unfixed state of medical opinion about the disease, Dr Graham has supplied what amounts to a short treatise upon the present day knowledge of the malady His aim has been rather to suggest methods of inquiry than attempt to prove the correctness of any one of the various theories which have been put forward *concerning the nature* of blackwater fever The field for observation in the West African colonies is known to be wide in extent as well as rich in material and it is suggested that if medical records were accurately kept upon a uniform plan the next 10 years would see the removal of some, if not all, of the obscurity that now envelops the causation of the malady The different views at present held as to the origin of blackwater fever are passed in review by Dr Graham, and the arguments for and against each are fully discussed In connexion with the opinion which attributes the disease to an infection by a specific organism, the question of direct and indirect transmission is dealt with in an interesting fashion Indirect conveyance of the infection might occur through the common use of domestic utensils, but of more importance we think, is the probable transmission through the agency of parasites, such as fleas, lice bugs, ticks, &c The African servants sleep together or with their relatives in the native quarter of the town or settlement Both native women and children often harbour pediculus vestimenti or pediculus pubis It would be easy for a native servant in the immediate environment of his master, to transfer parasites from his own person to that of his master or to his master s clothing or bedding For successful direct infection, however, personal contact with the native would be necessary, and this in the *majority of instances could* only occur during sexual intercourse In West Africa sexual relations with native women appear to be not very rare, and in non official circles they are commonly acknowledged The native woman often lives in the white man's house, directs his servants, and helps him in his business The opinion seems to be fairly general among non medically educated Europeans in West Africa that blackwater fever is frequently caused by habitual sexual relations with native women, and Dr Graham seems inclined to admit that there may be some kind of ground for this belief He says that if the malady be due to a specific infection, it would almost certainly be present in its most intense form among native women and children in process of acquiring immunity Contact with native children would be the most effective way of contracting the disease For most Europeans, missionaries excepted, opportunities for contact with native children are extremely rare under social conditions, but once a native woman is admitted to intimate relations with a European the opportunities for such contact would naturally increase Dr Graham goes on to say that whatever hypothesis as to the origin of blackwater fever be accepted, malarial or specific, the presence of native women, and their corollary native children, in a European s household in Africa is undesirable, and the danger of their presence is not *diminished when the accompanying children are the natural* offspring of the European himself Dr Graham also discusses the possible relation between the abuse of alcohol in the tropics and blackwater fever The misuse of alcohol is responsible in his opinion for a great deal of ill health on the West Coast of Africa, it binds the oxygen more firmly to the hæmoglobin of the red corpuscles, and thus diminishes their power of oxygenation The result is a *feeling of lassitude and disinclination for mental work* Wright, as quoted by Ehrlich has demonstrated that the ingestion of alcohol is followed by a diminution of the coagulability of the blood Lastly, Dr Graham points out that a drunken man exposes himself needlessly to the attacks of mosquitoes, and that he forgets to take his prophylactic quinine regularly, moreover, he is apt blindly and recklessly to indulge in sexual intercourse with native women

SACRODYNIA IN CANCER OF THE PANCREAS

THE diagnosis of cancer of the pancreas is often missed because symptoms pointing to the disease are wanting Of these the most important is pain extending from the epigastrium to the back The following case, reported at a meeting of the Société Medicale des Hopitaux of Paris on Nov 22nd by MM Marcel Labbe and André Gendron, shows that the pain may be situated so far from its usual site that no suspicion of the disease may be aroused A man, aged 55 years, a masseur, enjoyed good health until Christmas 1911, when on putting coal on the fire he felt a pain at the base of the chest on the left side This pain persisted in spite of the administration of anodyne cachets and the use of liniments He continued to work until April, 1912, but had to lie down several times a day to relieve the pain In February the pain extended to the middle line and then to the right hypochondrium, so that pain of the girdle type was produced The pain was at its maximum on the left side, in the middle line it was acute and on the right side dull From April the patient localised the pain in the sacral region It increased, and rendered walking painful and work impossible It was continuous, with violent exacerbations There were crises, which began by an increase of the sacral pain This reached its maximum in about an hour, and then the patient lost consciousness for several hours An injection of morphine was given, after which he slept for two or three hours The crises were not accompanied by either nausea or vomiting On August 16th he was taken to hospital in a crisis and delirious, in which state he continued until the 20th Examination on that day showed a condition of *mental confusion He attempted to get out of bed trembled* and had carphology He passed urine in the bed There were no signs of organic disease of the nervous system Lumbar puncture was performed and yielded turbid albuminous fluid containing intact polynuclear cells On the 21st he had regained consciousness and clearly gave his history He complained only of pain in the sacral region which, as well as the perineum, was tender, but no objective alteration of sensibility could be found The pain rendered the sitting or lying position difficult. The patient constantly lay with his legs flexed and his body bent, so that his head was between his knees. Every movement increased the pain. Abdominal palpation revealed nothing abnormal. On the 23rd lumbar puncture was performed and yielded a clear non-albuminous fluid. The patient became more and more cachectic. The pain was relieved only by morphine. Neither nausea nor vomiting ever occurred. One or two pasty stools were passed daily. During the first half of September the temperature was 100·4° F., then it fell to 98·6°. The urine did not contain sugar. Death occurred on Oct. 20th. The necropsy revealed a mass of the size of an infant's head in the left hypochondrium, enveloping all the pancreas except the head. The bile-duct was not compressed. The posterior wall of the stomach, terminal portion of the duodenum, transverse colon, and spleen were adherent to the tumour. The aorta and mesenteric vessels were surrounded by the tumour. There were cancerous nodules in the liver. The vertebral column was not invaded. The localisation of the pain in cancer of the pancreas in the sacral region does not appear to have been previously described. In this case cancer was suspected, but, in consequence of the position of the pain, in the pelvis. However, the doubled-up position adopted by the patient to relieve that pain has been several times described in cancer of the pancreas. Possibly the pain was due to compression of sympathetic nerves which finally involved the filaments of the sacral region. But why the pain became confined to this region cannot be explained. A similar localisation is sometimes observed in Pott's disease, in which the pain may be felt lower than the level of the involved roots.

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[1] Report on Blackwater Fever in Southern Nigeria 1899-1911 by Dr W M Graham Director of the Medical Research Institute Lagos London Waterlow and Sons 1912 Pp 72 with a number of plates *charts, and maps*

CONTRACTION OF THE DENTAL ARCH AND NASAL STENOSIS.

Dr. Matthew Cryer[1] deals at considerable length with the relation of contracted dental arches to nasal respiration in a contribution to this periodical. In his opinion the effect of the narrow arch is to compress the tongue and force it back into the oro-pharynx. The tongue, he says, "pushes up the soft palate against the post-pharyngeal wall and cuts off respiration through the nose. As the tongue forces the epiglottis downwards and backwards it also interferes with oral respiration, which, however, is a little easier than nasal respiration under these circumstances; hence 'mouth-breathing.'" Spreading the dental arch he considers gives relief to the nasal obstruction by allowing more room for the tongue, which moves forward and releases the pressure on the soft palate and other structures. The view taken by some authors that the beneficial effect on the nasal respiration is due to the opening of the intermaxillary suture and a widening of the floor of the nose is, in his opinion, incompatible with the anatomical structure of the parts involved. He points out that the malar processes, the malar bones, and the zygomatic arches, with their attachments to the sides of the brain case, form the lateral abutments of the maxillæ, and that these abutments are braced by the pterygoid processes and the vertical plates of the palate bones. These are permanent structures of comparatively hard tissues, whereas the bone of the alveolar process is of a far softer character, and it does not seem to him that pressure upon the latter could succeed in opening the maxillary bones which are so firmly held in position. The supporters of the idea that the suture between the intermaxillary bones opens, base their statements mainly on the appearances seen in radiographs. The distortion of radiographs of the upper teeth is well known, and in addition there is the extreme difficulty of taking two pictures at the same angle, so that evidence of this character is liable to be untrustworthy. Dr. Cryer, too, shows by a study of normal skulls that radiograph appearances of the normal suture frequently suggest that an opening exists. There is, in his opinion, no foundation for the idea that a definite relationship exists between the dental or palatal arch and the nasal floor. In support of his opinion he gives illustrations of skulls with narrow palates and wide nasal floors, and others with narrow nasal floors and wide palates. The production of the narrow dental arch so often seen in association with long-continued nasal obstruction, he thinks may in some measure be due to the tension of the palato-glossus and palato-pharyngeus muscles. The contribution is a thoroughly interesting one.

Mr. Edmund Owen's paper on Appendicitis: A Plea for Immediate Operation, which he read before the Medical Society of London on Feb. 10th (*vide* p. 441), was followed by a highly interesting discussion, in which Mr. W. H. Battle, Mr. C. P. Childe, Mr. J. Grey Turner, Mr. A. H. Burgess, Mr. G. R. Turner, Major A. J. Hull, R.A.M.C., Mr. A. M. Connell, Mr. W. H. Clayton-Greene, and Sir W. Watson Cheyne, the President, took part. A full report of the debate will appear in the next issue of THE LANCET.

THE death occurred on Feb. 10th of Mr. Malcolm Macdonald McHardy, formerly professor of ophthalmology at King's College, London, senior ophthalmic surgeon to King's College Hospital, and consulting surgeon to the Royal Eye Hospital.

THE ORGANISATION IN LONDON OF THE TREATMENT OF TUBERCULOSIS.

IN reply to the letter recently received from the Local Government Board suggesting that the London County Council should prepare a complete scheme for dealing with tuberculosis in London,[1] the Public Health Committee reported to the Council on Feb. 11th in favour of accepting the suggestion and outlining the general principles upon which it considered provision for treatment of tuberculosis should be made.

The committee first discussed in detail the clauses of the National Insurance Act bearing on the question, and summarised the recommendations of the Departmental Committee on Tuberculosis appointed in April, 1912, with which the Local Government Board had stated itself to be in general agreement. As to the action taken by the Board, the committee pointed out that, although communications had been addressed to county councils throughout the country as early as May, 1912, no indication was given until December, 1912, as to what authority was to be responsible for dealing with the disease in London. The Council, therefore, was in no way responsible for the delay that had occurred in making arrangements for the treatment of tuberculosis in London. Indeed, as soon as the Council was approached it decided to make temporary arrangements with the Metropolitan Asylums Board for the provision of a limited amount of accommodation. Authority to provide this was received on Dec. 11th, 1912, and although various alterations to buildings had been necessary patients were received on Feb. 10th, 1913.

Incidence of Tuberculosis.

As to the requirements of London and the existing provision for dealing with tuberculosis, the committee said it was difficult to estimate accurately the number of cases within the county, because the disease in all its forms had only just become compulsorily notifiable. There were, however, 33,384 cases of phthisis notified during 1912, of which 12,366 were Poor-law cases, 12,214 were hospital cases, 500 were school cases, and the remainder (8304) were notified by general practitioners. The medical officer estimated that there were in London 50,000 persons suffering from tuberculosis, and of these about 20,000 were insured persons. As regards school children, with the extension of medical re-inspection and the increasing facilities for diagnosis likely to obtain in the near future, it was probable that many more cases of early tuberculosis would be detected each year than had hitherto been the case. The existing provision was in the hands of the various public authorities and of the voluntary agencies comprising the general and special hospitals, the tuberculosis dispensaries, and various philanthropic and religious bodies.

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[1] Items of Interest, January, 1913.

[1] THE LANCET, Dec. 21st, 1912, p. 1743.

Recognition of Existing Agencies for Treatment.

It was obvious that if the best results were to be obtained the work of these authorities and institutions must be coördinated. For instance, under the existing arrangements, the provision of dispensaries was being dealt with by the borough councils. Although it was not suggested that this arrangement was undesirable, it was essential that there should be uniformity in regard to the dispensaries. Moreover, it was very important that the part played by the hospitals, general and special, should not be displaced by any newer dispensary provision. It was equally important that the valuable work of the practitioner should be assimilated in the new arrangements to be made. The dispensaries, if established as separate institutions, should fill up the gaps where the hospital provision was inadequate. It would be a great misfortune if the hospitals, with their highly experienced staffs, elaborate equipment, and special organisation, perfected through a mature experience, were not utilised in any future arrangements. No new institutions with their limited staff and resources could possibly provide the skill and experience available in the large general and special hospitals, and unless these were still to be utilised there would be irreparable loss to the persons suffering from tuberculosis, to whom hitherto these institutions had been available. It had to be borne in mind that in the large hospitals had been evolved to a great extent the forms of medical treatment now accepted as the best, and the progress of medicine was bound up with their keeping in intimate touch with the patients whom hitherto they had extensively treated. To conserve the work of these great institutions rather than replace it should be a definite aim in any reorganisation of the steps for dealing with tuberculosis now undertaken.

If it was considered desirable to coördinate the dispensary arrangements throughout London, uniform agreements should be made between the County Council and the borough councils, and the coöperation of the general practitioner, in cases not suitable for dispensary treatment, should be secured to the fullest extent possible.

One Central Authority for Administration.

The committee proceeded to point out that any measures for the prevention of infection from tuberculosis could not be confined logically to one class. The treatment of the disease could not be regarded as other than a matter of public health administration. This being so, the County Council, in its position of central public health authority, was obviously best fitted to organise the arrangements, as it was important that there should be no departure in London from the well-founded principle of having one central health authority for the administration and coördination of all matters relating to public health. In this connexion the committee indicated the important functions already exercised by the Council in regard to tuberculosis. In its function of education authority, also, it had, to quote the Departmental Committee on Tuberculosis, "the opportunity of playing a very important and indeed essential part in the detection, prevention, and treatment of tuberculosis."

Consultation with Existing Organisations.

For the reasons given the committee was of opinion that the Council should cause a detailed scheme to be prepared for the treatment of tuberculosis. It would be undesirable at this stage to indicate further any details of the scheme, because so many authorities and institutions were concerned that their views must of necessity be ascertained in the first instance. It was important, however, that the action which the Council was to take with regard to the general situation should be decided as soon as possible. The local authorities, hospitals, and all concerned in the provision of treatment for tuberculous persons in London were experiencing considerable difficulty in deciding what arrangements they were to make for the future because of the absence of any coördinating scheme. The question of finance was, of course, of paramount importance as bearing upon the scope of any scheme which might be prepared, and the ideal public health measure must be subordinated to the practical.

Major H. C. LEVITA, chairman of the Public Health Committee, moved the adoption of the following recommendation attached to the report:—

> That it be referred to the Public Health Committee to prepare forthwith and submit to the Council a scheme for dealing with tuberculosis throughout the Administrative County of London, that the Local Government Board be informed of the action taken, and that, for the purpose of preparing a scheme, the committee be authorised to confer with the sanitary authorities, the Insurance Committee for London, and such other authorities, institutions, or persons as the committee may deem necessary.

The Council approved the recommendation of the committee.

MEDICINE AND THE LAW.

Two Cases of Alleged Ptomaine Poisoning.

IN the High Court of Justice recently Mr. Justice Darling with a special jury tried an action brought by a lady named [illegible] ny, [illegible] the [illegible] of the defendants' servants The plaintiff, a trained nurse, occupied rooms in a block of buildings owned by the defendants, in which meals were served to the tenants in a common restaurant, and she gave evidence alleging that she had contracted ptomaine poisoning by eating certain boiled mutton at a dinner in the restaurant on a certain day. Medical and other evidence was called on her behalf, but the lady superintendent of the flats gave evidence, supported by her books, that boiled mutton had not been served in the restaurant on the day on which the plaintiff claimed to have been made ill by it. The plaintiff had also admitted in her evidence that she had contracted dysentery twice in South Africa and since then had suffered from colitis. Dr. O. F. F. Grünbaum gave expert evidence to the effect that acute colitis might be mistaken for ptomaine poisoning, and as to the imprudence of the plaintiff in playing a match at croquet on the day after she was first taken ill, as she had admitted having done. A verdict was found for the defendants.

Two days later, before Mr. Justice Horridge and a special jury, a case was heard in which the plaintiff, Mr. Cheverton, assistant manager to the firm of Pathé Frères, sued M. Pasquier in respect of poisoning which he ascribed to sardines eaten at the Mont Blanc restaurant kept by the defendant in Gerrard-street, Soho. The plaintiff relied upon the implied warranty of the defendant that the food supplied by him was fit for human consumption (Section 14 (1) of the Sale of Goods Act, 1893), and in the alternative alleged negligence in supplying it; the evidence on behalf of the defendant included that of a witness from the firm originally supplying the sardines to the effect that only sardines of good quality were supplied by them to the restaurant, and also that they were responsible for the supply of similar goods to various clubs and restaurants, whence no complaints had been received. Friends who accompanied the plaintiff to the restaurant and partook of sardines also stated that they had been made ill There was medical evidence to the effect that the plaintiff's condition had been consistent with ptomaine poisoning, but the opinion expressed by the medical practitioner who saw him [illegible] that he then was suffering from [illegible] questions were submitted to the [illegible] below. "Were the sardines [illegible] onably fit for human consumption?"—"No." "Was the illness of the plaintiff caused by such unfitness?"—"Yes." "Was the defendant negligent in supplying the sardines?"—"No." "What damages?"—"£26 10s." Upon these answers a verdict was entered for the plaintiff for the sum named, in respect of the breach of warranty, a certificate that the case was fit to be brought in the

High Court being refused. This refers to the amount of the damages, which in the absence of such certificate would entitle the plaintiff to costs on the county court scale only. Mr. Justice Horridge expressed the opinion that the case was one which a county court judge might have tried. The sub-section of the Sale of Goods Act referred to in this case may be of interest, as it is often brought forward in cases where dealers in food are sued in respect of the defective quality of goods supplied. It will be observed that the concluding words prevent the possibility of applying the section to the sale of quack medicines by retail dealers. "Where the buyer, expressly or by implication, makes known to the seller the particular purpose for which the goods are required, so as to show that the buyer relies on the seller's skill and judgment, and the goods are of a description which it is in the course of the seller's business to supply (whether he be the manufacturer or not), there is an implied condition that the goods shall be reasonably fit for such purpose, provided that in the case of a contract for the sale of a specified article under its patent or other trade name, there is no implied condition as to its fitness for any particular purpose."

Fleet v. *Johnson and Sons: Workmen's Compensation.*

In a recent case under the Workmen's Compensation Act, 1906, before the Court of Appeal, the county court judge had made an award in favour of the dependents of a deceased workman, a bricklayer. He had returned home with a sore on the back of his thumb on a certain date, and a month later had died from blood-poisoning after an abscess had developed in his armpit. The initial injury was one which might naturally be incurred in using a hammer and chisel as he had been using them, and the medical evidence was to the effect that the injury to the thumb might well have given rise to the blood-poisoning from which death took place, the medical witness before the arbitrator also making the admission in cross-examination that a dirty condition of the armpit might have caused the abscess referred to. There was, however, no evidence of such a condition having in fact existed. The medical witness had stated that as a matter of scientific opinion he had no doubt that the blood poisoning had been set up through the injury to the thumb. The Court of Appeal held that the county court judge was justified in accepting the medical evidence and in ascribing death to the accident alleged. The Master of the Rolls, who delivered the judgment of the court, laid emphasis again upon the point that the question was one not of law but of fact, as to which the court would not interfere with the finding of the county court judge unless he was shown to have misdirected himself. It was for applicants for compensation to establish their case, but it was not necessary for them to bring witnesses who had actually seen the alleged accident take place. They might prove facts from which it might be inferred. It must be proved where death ensued that it was due to the accident, but it need not be shown that it was a result to be expected. It might be an improbable and unexpected result, but that did not matter if it was shown that the accident did in fact have death as its consequence. The two questions which the county court judge had to answer, and which in the opinion of the Court of Appeal he had evidence before him to justify him in answering them as he had done, were: Did the workman meet with the alleged accident while he was at work? and, secondly, Did death result from that accident? The case may be taken as an example of the nature of the facts to be established not infrequently under the Workmen's Compensation Act, and of the points to which medical evidence may have to be directed when deaths of the kind described take place.

The Sale of Hypnotic Drugs.

At the February meeting of the council of the Pharmaceutical Society a resolution was carried in the following terms:—

> That by virtue and in exercise of the powers vested in the council of the Pharmaceutical Society of Great Britain by Section 2 of the Pharmacy Act, 1868, as modified by Section 1 of the Poisons and Pharmacy Act, 1908, the said council does hereby resolve and declare as follows:—That [illegible] ought to be deemed a poison within the me[illegible] Act, 1868, as amended by the Poisons and P[illegible] ought to be deemed a poison in the second part of the Schedule of Poisons to that Act.

This resolution has been sent to the Privy Council for approval. Diethyl-barbituric acid is known under various trade names, the best known being veronal. In March last year the council of the Pharmaceutical Society recommended, in another form of words, the addition of diethyl-barbituric acid to the list of poisons, but this recommendation was not adopted; the new resolution was framed with the object of divesting the former resolution of points of controversy which it contained.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,764 persons, 9082 births and 5896 deaths were registered during the week ended Saturday, Feb. 8th. The annual rate of mortality in these towns, which had steadily increased from 15·4 to 17·3 per 1000 in the four preceding weeks, declined to 17·2 per 1000 in the week under notice. During the first six weeks of the current quarter the mean annual death-rate in these towns averaged 16·5, against a corresponding rate of 17·0 per 1000 recorded in London. The death-rates last week in the several towns ranged from 4·2 in Ilford, 8·6 in Gillingham, 9·8 in Wolverhampton, 10·0 in Ealing, 10·2 in East Ham, and 10·3 in Walthamstow to 24·7 in Wigan, 24·9 in Wakefield, 26·0 in South Shields, 26·4 in Bury, 30·9 in St. Helens, and 41·9 in Stockton-on-Tees.

The 5896 deaths from all causes in the 96 towns were 10 fewer than the number in the previous week, and included 445 which were referred to the principal epidemic diseases, against numbers declining from 526 to 430 in the three preceding weeks. Of these 445 deaths, 200 resulted from measles, 78 from whooping-cough, 75 from infantile diarrhœal diseases, 45 from diphtheria, 29 from scarlet fever, and 18 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3, against 1·5 and 1·3 per 1000 in the two previous weeks. The deaths attributed to measles, which had been 277, 275, and 205 in the three preceding weeks, further declined to 200 last week, and caused the highest annual death-rates of 2·3 in Edmonton and in Sheffield, 2·4 in West Hartlepool, 2·8 in South Shields, 3·4 in Wigan, 3·8 in West Bromwich, 4·0 in Stockton-on-Tees, 4·2 in Acton, 5·2 in St. Helens, and 5·7 in Eastbourne. The deaths referred to whooping-cough, which had been 61, 81, and 66 in the three preceding weeks, rose to 78 last week, and included 37 in London and its suburban districts, 8 in Liverpool, and 3 in Bristol. The fatal cases of diarrhœa and enteritis (among infants under 2 years of age), which had declined from 87 to 65 in the three preceding weeks, rose to 75 last week; 27 deaths were registered in London, 7 in Birmingham, 7 in Liverpool, and 3 each in Stoke-on-Trent, in Manchester, and in Middlesbrough. The deaths attributed to diphtheria, which had been 59, 47, and 62 in the three preceding weeks, declined to 45 last week, of which number 8 occurred in London, 5 in Birmingham, 3 in Coventry, and 3 in Manchester. The deaths referred to scarlet fever, which had fallen from 32 to 17 in the four preceding weeks, rose to 29 last week; 7 deaths were recorded in London, 5 in Birmingham, 3 in Rhondda, 2 in Liverpool, and 2 in Preston. The fatal cases of enteric fever, which had averaged 15 in five preceding weeks, were 18 last week, and included 4 in London, 3 in Preston, and 2 in Liverpool.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospitals, which had steadily declined from 2112 to 1738 in the six preceding weeks, had further fallen to 1735 on Saturday last; 209 new cases of this disease were admitted during the week, against 204, 215, and 209 in the three preceding weeks. These hospitals also contained on Saturday last 962 cases of diphtheria, 804 of measles, 307 of whooping-cough, and 39 of enteric fever, but not one of small-pox. The 1499 deaths from all causes in London were 111 fewer than the number in the previous week, and were equal to an annual death-rate of 17·3 per 1000. The deaths referred to diseases of the respiratory system, which had steadily increased from 285 to 447 in the seven preceding weeks, declined to 373 last week, and were 172 below the number recorded in the corresponding week of last year

Of the 5896 deaths from all causes in the 96 towns last week, 183 resulted from various forms of violence and 426 were the subject of coroners' inquests The causes of 52 or 0 9 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest All the causes of death last week were duly certified in Manchester, Leeds, Bristol, Bradford, Hull, Newcastle on-Tyne, Nottingham, Salford, and in 62 other smaller towns The 52 uncertified causes of death included 7 in Liverpool, 5 in Stoke on-Trent, 5 in Birmingham, 5 in Sheffield, and 3 in Barrow in Furness

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns, with an aggregate population estimated at 2,260,200 persons at the middle of this year, 1165 births and 900 deaths were registered during *the week ended Saturday, Feb 8th The annual rate of* mortality in these towns, which had increased from 17 3 to 20 2 in the four preceding weeks, rose to 20 8 per 1000 in the week under notice During the first six weeks of the current quarter the mean annual death rate in these Scotch towns averaged 19 1 against a corresponding rate of 16 5 per 1000 in the 96 large English towns Among the several Scotch towns the death rates last week ranged from 10 5 in Kilmarnock, 11 7 in Kirkcaldy, and 14 6 in Clydebank, to 24 9 in Falkirk, 25 3 in Perth, and 29 0 in Ayr

The 900 deaths from all causes were 26 in excess of the number in the previous week, and included 88 which were referred to the principal epidemic diseases, against 80 and 74 in the two preceding weeks Of these 88 deaths, 52 resulted from whooping cough, 12 from diphtheria, 10 from infantile diarrhoeal diseases, 5 from measles, 5 from scarlet fever, and 4 from enteric fever, but not one from small pox These 88 deaths from the principal epidemic diseases were equal *to an annual death rate of 2 0, against 1 3 per 1000* in the 96 large English towns The deaths attributed to whooping cough, which had steadily increased from 29 to 55 in the five preceding weeks, were 52 last week and included 34 in Glasgow, 7 in Edinburgh 4 in Leith, 2 in Aberdeen, and 2 in Motherwell The deaths referred to diphtheria, which had been 10, 13 and 6 in the three preceding weeks rose to 12 last week 4 deaths were registered in Aberdeen and 3 in Glasgow The fatal cases of diarrhoea and enteritis (among infants under two years of age), which had been 10, 20, and 5 in the three preceding weeks, rose to 10 last week, 4 of which occurred in Glasgow The 5 deaths from *measles, 3 of which were recorded in Glasgow were slightly* in excess of the average in recent weeks The 5 deaths referred to scarlet fever were equal to the average in the five preceding weeks, and comprised 3 in Glasgow and 2 in Coatbridge Of the 4 fatal cases of enteric fever, 2 occurred in Glasgow, 1 in Aberdeen, and 1 in Greenock

The deaths referred to diseases of the respiratory system in the 16 Scotch towns, which had steadily risen from 148 to 221 in the four preceding weeks, declined to 214 in the week under notice, 34 deaths were attributed to different forms of violence, against 27 and 31 in the two preceding weeks

HEALTH OF IRISH TOWNS

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of this year, 654 births and 481 deaths were registered during the week ended Saturday, Feb 8th The annual rate of mortality in these towns, which had declined from 22 2 to 20 4 per 1000 in the three preceding weeks, increased to 20 9 per 1000 in the week under notice During the first six weeks of the current quarter *the mean annual death rate* in these Irish towns averaged 21 3 per 1000, in the 96 large English towns the corresponding death rate did not exceed 16 5, while in the 16 Scotch towns it was equal to 19 1 per 1000 The annual death rate recorded in the several towns last week was equal to 17 7 in Dublin (against 17 3 in London and 22 2 in Glasgow), 23 2 in Belfast, 22 4 in Cork, 20 3 in Londonderry, 16 2 in Limerick, and 26 6 in Waterford, while in the remaining 21 smaller towns the mean rate was 22 4 per 1000

The 481 deaths from all causes in the 27 Irish towns were 11 in excess of the number in the previous week, and included 41 which were referred to the principal epidemic diseases, against numbers steadily declining from 53 to 30 in the four preceding weeks Of these 41 deaths, 18 resulted from measles, 9 from infantile diarrhoeal diseases, 5 from diphtheria 4 from whooping cough, 2 from scarlet fever, 2 *from enteric fever, and 1 from typhus, but not one from* small pox These 41 deaths from the principal epidemic diseases were equal to an annual death rate of 1 8 per *1000*, the death rate from these diseases in the 96 large English towns last week did not exceed 1 3, while in the 16 Scotch towns it was equal to 2 0 per 1000 The deaths attributed to measles, which had been 22 17, and 21 in the three preceding weeks, fell to 18 last week, and *included 14 in Belfast and* 2 in Newry The deaths of infants (under 2 years of age) referred to diarrhoea and enteritis, which had declined from 12 to 5 in the four preceding weeks, rose to 9 last week, 5 deaths occurred in Belfast and 2 in Dublin The 5 fatal cases of diphtheria *recorded last week were equal to the average in the five pre*ceding weeks, and comprised 4 in Belfast and 1 in Dublin The 4 deaths attributed to whooping cough last week, of which 2 were registered in Dublin, were slightly in excess of recent weekly numbers The 2 deaths referred to scarlet fever were recorded in Dublin and Wexford respectively, those to enteric fever in Dublin and Newry, and the fatal case of typhus in Galway

The deaths referred to diseases of the respiratory system, which had been 113 135 and 120 in the three preceding weeks, declined to 104 in the week under notice Of the 481 deaths from all causes 164, or 34 per cent, occurred in public institutions, and 16 resulted from different forms of violence The causes of 12 or 2 5 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0 9 per cent

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments have been notified —Fleet-Surgeon H Spicer to the *Cornwallis* Staff Surgeons S Roach to the *Devonshire*, and N B V Jacob to the *Roxburg* geons G A S Hamilton to the and A Fairley to the *Victory*,

Fleet Surgeon A S Gordon Bell has been placed on the retired list at his own request (dated Feb 1st, 1913)

ROYAL ARMY MEDICAL CORPS

The undermentioned Lieutenants to be Captains (dated Jan 31st, 1913) Gilbert H Dive, Lionel C Hayes Robert Gale, Alfred G Jones, Kenneth Comyn, Frederick R Laing, Arthur S Cane, John M Weddell, Charles M Nicol, Arthur P O Connor, Thomas H Dickson, Hugh G Robertson, Herbert V Stanley, Philip C Field Ronald M Davies, Richard C G Kinkead, Edward C Stoney, Theodore W Stallybrass and Victor P Hutchinson

The undermentioned Lieutenants are confirmed in their rank William B Laird, Frances R B Skrimshire Edward B Allnutt Harry C Todd, Maurice Burnett, Gilbert A Blake, Robert W Vint, Harold W L Allott, John Hare, Robert A Flood, Eric C Lang, Leopold T Poole, Thomas H Balfour, Reginald E Porter Hugh J S Shields Pierce M J Power, Edward V Whitby, Edmund U Russell, Norman W Stevens, Richard B Phillipps James C Sproule, George F Allison, Robert C Carlyle, John E Hepper, and Henry F Panton

Colonel C E Faunce has been selected for appointment as *Assistant Director of Medical Services to the Woolwich* District, in succession to Colonel R W Ford D S O

Brevet Colonel C H Melville, commanding the Military Hospital at Lucknow Cantonment, has been selected for the higher rate of pay under Article 317 of the Royal Warrant for Promotion

Lieutenant Colonel S Macdonald has been transferred from medical recruiting duties in the London District to the Southern Command ington
has been selected fo of the
Military Hospital at J J
Gerrard has taken up in the

embolism of the pulmonary artery, even in cases conducted with aseptic methods. This fact should lead to precaution as to the dietary of pregnant women, especially in the upper classes, who are sometimes over-nourished.

The tendency to viscosity of the blood is to be met by diminished use of animal food and increased use of fresh, especially green, vegetable food. Where the circulation is languid alcohol in some form is of much value. Milk should be sparingly used and diluted with sodium citrate and soft water. The use of ether as an anæsthetic may perhaps prove unadvisable in cases where a hyperinotic condition of the blood is suspected.—I am, Sir, yours faithfully,

Grosvenor-place, S.W., Feb. 10th, 1913. DYCE DUCKWORTH.

RESEARCHES IN COLOUR VISION.

To the Editor of THE LANCET.

SIR,—I have just been reading a book with the above title by Sir W. Abney with the greatest gratification. When a scientific man has striven for the greater part of his life, against the greatest opposition, to establish certain new principles, facts, and methods, it is very pleasing to find that a man who has been his chief opponent should, though rather late in the day, have adopted those methods.

For 24 years I have advocated certain methods of testing for colour-blindness based on my own theory of colour vision. I have insisted, in opposition to Sir W. Abney, that colour names were essential in any test, and that coloured lights should be used instead of coloured wools. The first test mentioned is the Holmgren wool test; to this two new test skeins have been added similar to those in my classification test. Sir. W. Abney writes: "If the examinee is asked to name some of the confusion colours, the giving of a wrong name to any of them will confirm what has probably been found out by the matches." The word "probably" is very significant. The next test mentioned is one by water-colour washes, in which squares of pale colours are named (see p. 105 of my book, "Colour Blindness and Colour Perception," International Scientific Series, 1891 and 1909). Sir W. Abney gives laboratory tests in which the examinee is asked to name portions of the spectrum in a similar manner to that described in my book, p. 111. The imperfect lantern test recommended by the Departmental Committee of the Board of Trade is described. This would have been a better copy of my lantern and more efficient if means for regulating the luminosity had been adopted. A test by simultaneous contrast is next mentioned. I was the first to point out that simultaneous contrast is more marked for the colour-blind than the normal-sighted (see my book, p. 270). My only regret is that Sir W. Abney has given two other methods—namely, matching yellow with a mixture of red and green and estimating the relative luminosities of red and green by means of the flicker method of photometry. Both of these are based on the trichromatic theory, and I have shown both to be erroneous, but only within the last few weeks; that is to say, a man who is so colour-blind as to confuse full red and full green may appear absolutely normal-sighted by these methods, whilst a normal-sighted person may appear colour-blind.

As Sir W. Abney states that his book is the substance of a large number of communications to the Royal Society, and I am unable to find the methods described by him in them with the exception of the two which I regard as erroneous, I think I may draw attention to one slight omission in that he has not mentioned my name throughout the book. I am, Sir, yours faithfully,

F. W. EDRIDGE-GREEN.

The Institute of Physiology, University College,
London, Feb. 7th, 1913.

THE PATHOGENICITY AND VIRULENCE OF BACTERIA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Feb. 8th, p. 413, it is stated by Dr. F. H. Thiele and Dr. Dennis Embleton that, anticipating our criticism, they took full precautions to guard themselves against error in their recently published experiments. A year ago we published charts which showed that the use of water collected from either the condensing drip or the collecting tank of the ordinary distilling apparatus leads to serious error in the study of experimental fever. This is due to the infection of both worm and tank that frequently occurs in consequence of the aspiration of infected air caused by cooling. We also showed that the use of filtered water introduces a further source of error owing to contamination of the filtrate with calcium and other salts if hardware filters are employed. Dr. Thiele and Dr. Embleton admit the use of the hardware filter and of water from the condensing drip in all their experiments, and it is therefore difficult to understand in what sense their precautions against error were complete. If, however, they will collect into sterile agar tubes 1 or 2 c.cm. of water direct from the condensing drips of a series of the distilling vessels in ordinary laboratory use, they will be able to see for themselves the percentage of tubes in which gross infection will have taken place. And if, further, they will add ammonium oxalate to water after passage through the Pasteur-Chamberland filter—which they apparently believe to be innocent of calcium—they will be able to confirm our observation that it contains calcium in considerable amount. After repetition of these two experiments they will, we feel sure, be the first to admit the accuracy of the demonstration we gave last March that water after filtration through hardware filters is no longer pure water, and that even unfiltered water when it fails to produce a fall of temperature when injected is also not pure water. As regards the use of the guinea-pig as a suitable animal in which to study experimental fever by repeated observation, the point of our remarks on the subject was that very inconstant temperatures had been found sometimes to occur in uninjected animals in spite of the fact that they had been kept for weeks on a constant and adequate food-supply. In view of this fact, study of an equally large number of animals will convince the most sceptical observer that this—the third source of error to which we referred—is one that cannot be ignored. We are, Sir, yours faithfully,

E. C. HORT.
The Lister Institute, Feb. 8th, 1913. W. J. PENFOLD.

AN INTERESTING EXHIBITION OF RAYNAUD'S PHENOMENA.

To the Editor of THE LANCET.

SIR,—The interesting article by Professor T. Wingate Todd in THE LANCET of August 10th, 1912, on The Vascular Symptoms in "Cervical" Rib, suggests that the following curious case may be of interest.

A B, a strong, healthy man, first came under observation in May, 1911. He is 45 years of age and married, a teetotaler, and has three healthy children, youngest 8 years; no history of syphilis, and has never had any illness. His occupation causes him to do a good deal of hammering with a heavy hammer. Complained first of "pins and needles" pains in the ulnar side of his right hand and of two inner fingers, severe enough to keep him awake at night. Liniments and the faradic current gave no relief. A small swelling about the centre of the ulnar side of the right forearm was explored for a foreign body, but nothing was found. The tingling pain soon spread to the radial side of the hand, and was accompanied by swelling and weakness of grasp. The reflexes, wrist and elbow jerk, were normal; cutaneous sensation to touch, pain, and temperature was diminished. Three months from the commencement of the attack the hand exhibited the milder phenomena characterising Raynaud's disease—viz., local syncope, especially after elevation and immersion in cold water, and local asphyxia after hanging the hand down. About this time a small swelling became manifest near the proximal end of the extensor secundi internodii pollicis tendon. This also was explored and nothing found. The patient was told to wear a thick glove and to avoid cold water. Owing to the severity of the pain small doses of anodynes were necessary to procure sleep. About this time it was noticed that the right subclavian pulse was very much more difficult to feel than on the left side, the brachial pulse was very feeble, and the radial and ulnar arteries imperceptible. Faradism having quite failed to give relief, early in 1912 galvanism was tried, with the approbation of Dr. W. Mitchell Stevens, of Cardiff, who took great interest in the case. The patient began with eight cells of a constant current battery of 24 dry cells, going on to 16 and using the method originally recommended by Raynaud and practised by Sir Thomas Barlow—that is, one electrode over the cervical spine, and the other in a basin of warm water in which the hand was immersed The patient, being desirous of saving his hand, persevered with this treatment, although many small burns occurred on the skin of the nape and upper arm from the strength of the current employed The vaso motor disturbances and the pain gradually lessened The grip strengthened, and the patient returned to duty in July, 1912, doing light work at first, and has now resumed his full work Dr. Stevens stated that the maximum blood pressure was 130 mm No tumour could be felt anywhere in the course of the arterial trunk of the affected limb Embolism appears out of the question, as his heart is perfectly healthy, and the symptoms commenced in the ulnar nerve Thrombosis also seems out of court on the same grounds; and the fact of recovery after the use of galvanism points to the phenomena being due to implication of the branch of the cervical sympathetic chain which controls the vascular supply of the upper limb

After reading Professor Wingate Todd's interesting cases, we naturally expected to find the shadow of a cervical rib in this case, but no trace of such a shadow was found Possibly in the cervical rib cases the rib is merely a predisposing cause, and some slight injury to the root of the neck is the exciting cause of the pseudo-Raynaud symptoms Obviously the abnormal rib has been present from birth, whereas the symptoms, instead of being congenital, appear in active adult manhood, when traumatism is likely to occur

I am, Sir, yours faithfully,
EDWARD C. B IBOTSON

Briton Ferry, Glamorgan, Feb 8th 1913

ARTIFICIAL RESPIRATION

To the Editor of THE LANCET

SIR,—One strongly deprecates the habit nowadays of going outside one's province This is an example, when an attempt is made to explain in the physical plane what has evidently taken place in the spiritual plane However, whatever has been paraphrased loosely from the received Hebrew *text is due to unskilfulness and arbitrariness* The powers, too, of the translators were limited The word in the Septuagint which is translated as child in the English version is *παιδάριον* This is a diminutive from *παῖς*, and means a young or little boy We may take it that the person was a child and not an adult In the same passage the same term *παιδάριον* is used of the servant, and in classical Greek it means a young slave The Verse 34 which has been quoted in your issue of Feb 1st is part of a paragraph The paragraph commences at Verse 18 *as follows*: "18 ¶And when the child was grown, it fell on a day, that he went out to his father to the reapers 19 And he said unto his father, My head, my head! And he said to a lad, Carry him to his mother 20 And when he had taken him, and brought him to his mother, he sat on her knees till noon, and then died" From this last Verse 20 some considerable period has elapsed before we come to the remarkable Verse 34, in which the child seems to have been revived by what Professor Leonard Hill would style "Elisha's method of artificia [illegible] fathom the nature [illegible] medical point of [illegible] side our definite range

I am, Sir, yours faithfully,
JOHN FREDK BRISCOE

Alton, Hants, Feb 8th, 1913

To the Editor of THE LANCET

SIR,—Since you published my letter in THE LANCET of Feb 8th in reply to Dr Leonard Hill I have discovered the following passage with reference to the matter in "The Diseases of the Bible," by Sir Risdon Bennett, M D, F R S, Ex President of the Royal College of Physicians (The Religious Tract Society, London, 1887).—

[illegible] when the child was [illegible] ather to the reapers [illegible] And he said to a lad, [illegible] *d taken him,* and [illegible] nees till noon, and [illegible] the bed of the man [illegible] nt out' This case [illegible] insolation and this exclamation, "My head, my head" is to be understood as intimating sudden severe pain [illegible] in instance of sudden [illegible] he brain) supervening [illegible] of sunstroke, all of [illegible] In the severer form, [illegible] are overwhelmed the [illegible] death may ensue rapidly. [illegible] fails, and the skin is cold. [illegible] prove so in the course of a [illegible] s after a period of reaction accompanied by symptoms of severe injury to the nervous system That death had actually occurred in this instance there can be no reasonable doubt A period of ten or twelve hours at least must have elapsed before the arrival of the prophet And it was not till [illegible]

I am, Sir, yours faithfully,
STARCHER.

Feb 10th, 1913

SERUM TREATMENT IN MELÆNA NEONATORUM.

To the Editor of THE LANCET

SIR,—A reference is made in the Annotations in THE LANCET of Feb 8th, p 403, to serum treatment in cases of melæna neonatorum by Dr Franz Bearing on this subject, I referred to this method of treatment in some detail in a thesis which is reprinted in the last volume of the Guy's Hospital Reports (Vol LXVI, p 328) It is here shown that Welch and Nicholson, of Philadelphia, have had equally successful results in the treatment of these cases with normal human blood serum

I am, Sir, yours faithfully,
WILSON TYSON, M D Cantab

Lowestoft, Feb 10th, 1913

THERAPEUTIC USE OF VACCINES IN TYPHOID FEVER

To the Editor of THE LANCET

SIR,—In THE LANCET for Jan 18th, p 184, under "Annotations," is a review of my paper in the *American Journal of the Medical Sciences* for October on the therapeutic use of vaccines in typhoid fever. I wish to thank you for the very careful, complete, and concise review you gave of this paper There is one mistake, however, evidently a typographical error, to which I would like to call attention In the twelfth line of the second column occurs this sentence "He begins with 500 millions, and at intervals of *14* days, as long as necessary, gives a dose increased by 100 millions" The sentence should read. "He begins with 500 millions, and at intervals of *four* days as long as necessary, gives a dose increased by 100 millions" I hope you will make this correction as the difference is very important Your review will be read by more people than will see the original paper

I am, Sir, yours faithfully,
J G CALLISON, M D.

New York, Jan 31st 1913

THE ORDER OF ST JOHN OF JERUSALEM.

To the Editor of THE LANCET

SIR,—On the last day of January the hand of death removed from amongst us three really distinguished men the Earl of Crawford, Admiral Sir F G D Bedford, and Lord Ilkeston The first was a scientist and a soldier, the second a naval administrator and a fighting sailor, *the third a* medical man and a politician The two first named were Knights of Grace of the Order of St John of Jerusalem in England; the last was not The practice of conferring the decorations of this Order upon naval and military officers, members of the peerage, and gentlemen with influential friends at Court, to the exclusion of those who have actually done something towards the relief of suffering and sickness, has been prevalent for a long time, but it is quite time that a reform should be instituted I am not unmindful of the fact that there are *a few medical men* who have received promotion to the higher ranks of the Order; but they form an insignificant minority, and even they have been thus honoured for social or military rather than professional eminence in most cases. Admiral Bedford was a G.C.B. and a G.C.M.G.; his fame would have been no whit less glorious had he never become a Knight of the Order of St. John. The best of private reasons may have led to his reception of the honour. Lord Crawford was a Fellow of the Royal Society and a Knight of the Thistle, the two distinctions which marked him out clearly as prominent in science and distinguished in rank. He, too, might well have remained outside the higher ranks of the Order. Lord Ilkeston, on the other hand, throughout many years of his long professional career, not only was a very able and industrious hospital physician and teacher, but also rendered notable unremunerated services to the medical profession as a Direct Representative on the General Medical Council, to the public health of Birmingham, and afterwards to that of the United Kingdom when he became Parliamentary Secretary to the Local Government Board. For such services to the State no better recognition could well be devised than the bestowal of one of the two Knighthoods of St. John of Jerusalem. Universities delighted to honour him with their degrees, and public work obtained for him an hereditary dignity, but (I believe) that the Knighthood of Grace was not for him. When the purpose and origin of the Order of St. John is remembered, surely it is evident that something is amiss with its administration at the present day. His Majesty the King is Sovereign Head and Patron of the Order (in England), and was Grand Prior when he was Prince of Wales. He is credited with the intention of reforming the present system of the distribution of honours and titles, and I trust that he will not omit the Order of St. John from the scope of his reforms.

I know, Sir, that much that has been good in the Order has been chronicled in your columns, but I venture none the less to ask publicity for the remarks of,

Yours faithfully,
DOUBTFUL.

Feb. 2nd, 1913.

CHEWING-GUM.

To the Editor of THE LANCET.

SIR,—A case having occurred recently in the North of England in which death was suspected to have been caused, to some extent at least, by the use of chewing-gum, it appeared to me advisable to have samples of this article analysed. The following is the gist of the report received: "The samples are free from poisonous metals and actively harmful ingredients. They are compounded of a vegetable gum, known as chicle gum, which is allied in its nature to guttapercha, with sugar and flavouring essences. The gum present in these samples to the extent of 17 to 25 per cent. is not actively poisonous or harmful chemically, but is quite insoluble and indigestible. The use of these chewing-gums by children especially who are likely to swallow the whole is much to be deprecated, and should be discouraged by all available means."

Before taking any further steps, I feel that I should have some definite evidence to put forward. If, therefore, any reader of THE LANCET has had experience of actual cases in which harmful results accrued from the use of these substances, I should take it as a great favour if he would communicate the facts to me.

I am, Sir, yours faithfully,
H. KERR,
Medical Officer of Health.

Health Department, Town Hall, Newcastle-upon-Tyne,
Feb. 12th, 1913.

THE AFTER-CARE ASSOCIATION.—This association for watching over poor persons discharged from asylums for the insane will hold its annual meeting at the Medical Society's Rooms, 11, Chandos-street, Cavendish-square, London, W., on Tuesday, Feb. 25th, at 2.45 P.M. Sir James Moody will preside, and after the usual business a paper, entitled "After-Care in Cases of Mental Disorder and the Desirability of Extending its Scope," will be read by Dr. C. Hubert Bond, a Commissioner in Lunacy, and this will be followed by a discussion.

CHOLERA AND WAR IN THE NEAR EAST.

(FROM THE BRITISH DELEGATE TO THE CONSTANTINOPLE BOARD OF HEALTH.)

Cholera in the Turkish Empire.

AN exceptional stress of work, caused directly and indirectly by the state of war, has prevented me from continuing the record of the cholera epidemic in this country since the date of my last letter (published in THE LANCET of Nov. 9th, 1912). The apprehensions then expressed have been only too fully realised. Once again the tragedy of a violent cholera epidemic attacking defeated and exhausted troops has been enacted, and the deadly results of this sinister combination have been still further heightened by the complete breakdown of such arrangements as existed for dealing with disease in the stricken army. The story, though the first events are no longer of recent occurrence, should be placed on record in the columns of THE LANCET.

Early in November cholera appeared among the troops at the Tchatalja lines. It spread like fire through stubble. For a while large numbers of sick and dying arrived by every train at the terminus of the railway in Stamboul, and the roads between Tchatalja and the city were credibly reported to be littered with the bodies of soldiers dying and dead from the disease. At the railway terminus itself some wooden barracks were converted into temporary hospitals or receiving rooms, whence the sick were drafted to the other hospitals or the principal mosques in Stamboul. The latter were rapidly filled to overflowing, and here it must be confessed that not only lack of organisation but also no little inhumanity contributed to the disastrous result. It is, no doubt, true that many of the men interned in the mosques—notably that of St. Sofia—were deserters, and so, perhaps, merited scant consideration from the military point of view; but the dictates of humanity should have saved them from the fate that many of them seem to have met there. To speak of St. Sofia alone—the mosque was at one time surrounded by armed troops, who prevented all communication with the outside, while the cholera-stricken men inside were, it is credibly stated, left without treatment and almost without food or care of any kind. The number of deaths in this mosque alone has been variously estimated at figures ranging from 700 to 1500. When, a little later, the building was evacuated and handed over to the Board of Health disinfectors the conditions were foul beyond words. The 10,000 square yards of matting which covered the floor were soaked with cholera discharges and littered with human excreta. Some six or seven layers of this matting were found—the lower layers were black putrescent shreds—showing that whenever new matting had been needed it had been simply laid down over the old. For eight or ten days a bonfire of this matting was burning night and day in the courtyard of the mosque, and it took over three weeks to cleanse and purify the soiled building. It may be mentioned, in passing, that the statement published in some papers, that inscriptions had been found on the floor of the mosque after it was laid bare, was incorrect; the floor is merely one of irregular and uneven stone slabs, without inscription of any kind. It is now re-covered with new matting, and many more years will probably elapse before it is again exposed.

Shortly after the appearance of cholera in the army an endeavour was made to protect the city by stopping all infected and suspected troops and those who had been in contact with them at St. Stefano—a station on the line some seven miles from the walls of Stamboul. For a while the sick and dying were left here without shelter or care of even the most rudimentary kind. Relief first came from a few heroic individuals, working solely from humane impulse and with almost no funds at their disposal, and it was not until later that some tents were put up, by the military and Red Crescent authorities, in the fields and open spaces in and around the village, and some attempt made at a hospital organisation. But it was long before anything deserving the name really existed, and in the meantime a second tragedy, in no way less harrowing than that of the mosques of Stamboul, had been enacted in the fields of St. Stefano.

The Privations of War.

It can never be known how many Turkish troops died from cholera, but there can be no doubt that the number was an exceedingly high one On the other hand, in the St Stefano camps among the cholera cases there were also many men suffering from dysenteric and diarrhœic disorders other than cholera while many thousands of medical and surgical cases of all kinds remained here for days and even weeks before being drafted into the hospitals of Constantinople Many of these suffered from great weakness and anæmia, due to privations, accompanied frequently by general anasarca and ascites, without albuminuria or other sign of kidney trouble Almost as numerous were cases of spontaneous gangrene of one or more extremities The total number of this latter class of case was extraordinarily large This condition was brought about by long exposure to wet and cold, to general malnutrition, and to lack of treatment at the onset Some ascribed it to the wearing of tight putties, and this certainly contributed to the result in many instances, but not only did some of the soldier patients not wear putties, but identical cases have occurred (the writer has one such under treatment at this moment) in civilian refugees who had never worn them

It is noteworthy that at the time these cases occurred the weather was in no sense exceptionally cold—it was before the frost and snow set in—and the condition, though resembling an extreme degree of frost bite, was caused by prolonged exposure to a chilly temperature and great wet, rather than to a short exposure to a very low temperature as in the case of true frost bite General malnutrition, privation, and the absence of all treatment also played their part, and the remarkably symmetrical character of the gangrene, when both feet were affected, also tends to show that the trouble was as much of central as of local origin The failure of the commissariat department of the Turkish army in this war has become notorious and some of the patients in the writer's temporary hospital for wounded have averred that it was no unusual thing to go for two or three days without food, while on one occasion one patient and his comrades were for seven days with no other food than grass and wild herbs

Cholera in Constantinople

It was inevitable that cholera should appear among the civil population of Constantinople shortly after it attacked the army The earliest cases were recognised on Nov 5th By Nov 18th 268 cases and 99 deaths had been registered, and the subsequent weekly returns have been as follows —

Week	ending	Nov	25th	347	cases,	193	deaths
,,	,,	Dec	2nd	302	,,	166	,,
,,	,,	,,	9th	540	,,	229	,,
,,	,,	,,	16th	451	,,	244	,,
,,	,,	,,	23rd	276	,,	141	,,
,,	,,	,,	30th	158	,,	74	,,
,,	,,	Jan	6th	117	,,	62	,,
,,	,,	,,	13th	46	,,	29	,,
,,	,,	,,	20th	5	,,	3	,,
,,	,,	,,	27th	4	,,	2	,,
,,	,,	Feb	1st	1	case,	0	death

The last case occurred on Jan 27th, and Constantinople has now been declared cholera-free The total number of cases has been put at 2515, and that of deaths at 1245 Of these a certain number, but by no means a large proportion of the whole, occurred among the refugees who for the last few months have flocked into the city It has been estimated that over 100,000 persons have fled into Constantinople from the towns and villages situated in Thrace and Macedonia They are mostly exceedingly poor, and not a few died on the journey to the capital But the rest are a remarkably hardy class, and the men have suffered little from illness in spite of their privations A considerable amount of illness has, however, prevailed among the women and children At present there is an unusual (but for this city not excessively high) total weekly mortality from small pox, and measles and scarlet fever are exceptionally prevalent Typhus does not seem as yet to have made its appearance and to judge from the records of the winter of 1877-8, when the city was similarly crowded with refugees owing to the Russo Turkish war, the situation to day is, from a public health point of view, very much more favourable than it was then

Constantinople during the Russo Turkish War

At that time small pox, typhus, and other diseases decimated the refugees A valuable report on the conditions which then prevailed still exists, from which it may be gathered that they were at their worst in the months of March and April, so it is, of course, too early yet to make a final comparison between the two epochs At that time, in St Sofia alone, 7000 refugees were placed, and of these more than half died In a school at Ak Serai only 250 survived out of a total of 650 interned there, and elsewhere the same terrible ratio of mortality was maintained The doctors, nurses, and lay helpers suffered very seriously from typhus and other diseases contracted from the refugees But so far, in the present winter, in spite of the presence of cholera which was then absent, there has been no such catastrophe, though it must be confessed that, should the war continue (as seems inevitable at this moment), there are all the materials for a repetition of the events of 35 years ago. Even now there has been a very considerable mortality among refugees on their trek to this city, and also in less favoured towns, such as Salonica, and in the various districts of Asia Minor to which they have been, and still are being, transferred in large numbers

The measures taken to control the cholera epidemic in this city have been fairly adequate A large sum of money was voted by special decision of the Board of Health (whose funds are not primarily intended for such internal measures) to supplement the measures taken by the municipal and military authorities Cholera hospitals were opened in various parts of the town, squads of disinfectors were organised in all the municipal quarters, and a large additional medical and subaltern staff was engaged, and at no time could it be said that the epidemic was out of hand and beyond the control of the combined authorities

Cholera in the Provinces

In the provinces the following figures have been registered in continuation of those furnished in my last letter .—

Week	ending	Oct	9th			66	cases,	101	deaths.
,,	,,	,,	16th			33	,,	89	,,
From	Oct	16th	to	Oct	29th	72	,,	116	,,
,,	,,	29th	,,	Nov	8th	95	,,	176	,,
,,	Nov	9th	,,	,,	16th	84	,,	82	,,
,,	,,	16th	,,	,,	23rd	160	,,	218	,,
,,	,,	24th	,,	Dec	2nd	44	,,	47	,,
,,	Dec	3rd	,,	,,	11th	61	,,	3055	,,

Since the last named date no further bulletin has been issued During the first weeks covered by the table the disease was confined to various parts of Asia Minor and Northern Syria, including serious outbreaks in Aleppo and Damascus, and smaller ones in Baalbek, Alexandretta, and other towns The returns were (as usual) very incomplete, and only towards the end included the figures for Mecca and Medina As stated in my last letter, cholera broke out in the Hedjaz towards the end of September It had before that appeared among the pilgrims of several pilgrim ships performing quarantine at the Camaran lazaret. By Oct 5th the disease had reached Medina, imported by caravans from Mecca It continued to cause a moderate degree of mortality among the pilgrims until the fetes of Kurban Bairam began (on Nov 20th), and then, when the agglomeration of pilgrims was at its highest, the figures suddenly rose, and for a week or more from 400 to 500 deaths daily were registered among the pilgrims at Mecca at Mina, and Arafat, and on the road between these places The total number of cases or deaths has never been ascertained exactly, but the mortality has been estimated at something between 5000 and 9000 The disease appeared in Jeddah, with the returning pilgrims, on Nov 25th, for a few days it caused over 50 deaths a day here, but the outbreak did not last long, and appears to have been over by the middle of December after causing some 400 or 500 deaths

A considerable number of imported cases of the disease were seen at the Tor Lazaret among pilgrims returning northwards, but fortunately the infection did not pass the Suez Canal nor was it carried by the Hedjaz Railway from Medina to Damascus and the Syrian towns This was no doubt partly due to the measures taken at the lazarets of Tor and Tebuk, and partly to the fact that the season of returning pilgrimage now falls in the winter months The limitation of this outbreak of cholera, which was produced by a virus newly imported from the homes of the disease in India and the Dutch Indies, to the Hedjaz and the basin of the Red Sea was an exceedingly fortunate fact There can, I think, be little doubt that the ravages of cholera among the Turkish troops above described were due to a cholera microbe which had been for many years in Europe, and had lost some of its virulence in that period; and that, disastrous as were the results it produced, they would have been very much more so had a cholera germ newly imported from India or the Far East been introduced among the exhausted and famished men of the defeated Turkish army.

It has to be added that, at the moment of writing, large numbers of cases of diarrhœic disorders are under treatment in the camp hospitals at St. Stefano, and it is more than suspected that cholera exists among them. With the renewal of the war (which now appears inevitable, if it has not already begun) there must be serious apprehensions of a fresh outbreak of the disease in the Turkish and perhaps in both armies.

Cholera in Odessa.

Quite recently a few cases of cholera were reported from Odessa. On Jan. 8th an inhabitant of the town, a woman, was admitted to the municipal hospital suffering from the disease (bacteriologically confirmed), and died the next day. Between that date and Jan. 21st 4 more cases of the disease occurred; no further cases have been reported since the last-named date.

Constantinople, Feb. 4th.

THE ALL-INDIA SANITARY CONFERENCE.

(From our own Correspondents.)

Introductory.

The value of congresses and conferences in promoting knowledge and circulating new ideas is not universally accepted, although it is acknowledged by many. The practical results rarely realise the theoretical ideal. Some say they are overdone and that, although they bring together those who are willing and able to give their time to such methods of education, no real work is ever done and little practical good results.

The recent All-India Sanitary Conference, which took place in Madras from Nov. 11th to 15th, 1912, should become an annual function, for it has for its object the discussion of all sanitary questions in India. The importance of these has lately received much attention from the Indian Government, and by bringing together the flower of Indian sanitary experts opportunity is given for conferring on the many sanitary problems which must be dealt with in this country. The recent Congress included some 76 delegates nominated by the various Governments and representing all classes and all branches of sanitary science —besides some delegates whose position on the Conference it is difficult to understand; but it lacked that element of outspoken discussion of Western Countries, or rather it was overshadowed by the official element which pervaded the assembly. No doubt in India this, much as it is to be regretted, is difficult to avoid, for a spontaneous conference of scientists is impossible in India without the financial assistance and support of Government. The municipalities themselves would be unable to organise any such assembly, nor do any societies or institutes exist which are capable of doing so. The annual congresses of the British Association, different sanitary institutions, the British Medical Association, and other such organisations, meet under different conditions.

The Government of India, with the coöperation of the various Governments of the Presidencies, organised the recent Conference, and did it exceedingly well. The President, Sir Harcourt Butler, I.C.S., and his secretary, the Hon. Mr. Ludovic Porter, I.C.S., assisted by the Director-General of the Indian Medical Service, Sir C. Pardey Lukis, I.M.S., Surgeon-General W. B. Bannerman, I.M.S., of the Madras Presidency, the Sanitary Commissioner to the Government of India, Major J. C. Robertson, I.M.S., and the Sanitary Commissioner for the Madras Presidency, Captain W. A. Justice, I.M.S., with two or three Members of Council and several members of the Indian Civil Service lent an official air to proceedings that were interesting throughout. The majority of the delegates held Government posts, sanitary, medical, or engineering, and these, with a sprinkling of Indian medical men (appointed for reasons possibly well known to the various Governments, but difficult to understand from the standpoint of sanitary science), and, with the health officers and sanitary engineers of the larger cities of India, made up an assembly which should be capable of advising their Governments on the sanitary problems of the day. But they were more or less compelled to take an official view, and many questions which would in England be dealt with in an open and free discussion did not receive the consideration they deserve, and the sanitary commissioners or the sanitary engineers being Government officials could not break away through red tape for fear of offending the higher authority; while, on the other hand, every consideration was given to those representatives whose position as delegates it is difficult to recognise. However, there can be no two opinions as to the value of the work done at the Madras Conference, or the impetus it will give to sanitary science in India. The papers read, or taken as read, will amply repay perusal, but too much was attempted, and the delegates were flooded with literature and talk which will take much time for digestion. The immense amount of matter circulated could barely be glanced through, and papers containing questions of most vital importance were introduced and discussed without having been read by the delegates. There is much room for improvement in this direction, and the next Conference will no doubt be organised to remedy this.

In Sir Harcourt Butler the Conference had a most urbane and capable President, while Mr. Ludovic Porter carried out his onerous duties with tact and geniality. Sir Pardey Lukis presided at the Malaria Conference with much skill and forbearance, while his knowledge of the subject and his explicit statements much facilitated the work.

The strenuous duties of organising the assembly and providing conveyances, accommodation, and refreshment, and supplying the delegates with the papers printed and corrected, devolved on Major Robertson, Captain A. G. McKendrick, I.M.S., and Captain Justice, who performed their duties in a manner that elicited the approval of everyone, while the officials of Madras contributed in no small degree to the success of the Conference by providing interesting excursions and investigations into the many excellent sanitary arrangements of the city. The hospitality of the organisers of the Conference and His Excellency the Governor, and the Director-General and the officers of the Indian Medical Service, and the people of Madras was profuse, and the delegates who attended the Conference will look back with pleasure and profit to the All-India Conference of 1912.

The President's Address.

The Conference was opened by Sir **Harcourt Butler** in an able and brief address, welcoming the delegates, and pointing out how much importance was attached to that Conference by the Government of India. He said that the union of education and sanitation under the same department was no accident, since people must be educated to appreciate the objects of hygiene and sanitation. There were signs, he said, of a sanitary awakening in India. The establishments of the revived post of Sanitary Commissioner proved this, while to the Director-General of the Indian Medical Service had been allotted the bacteriological and research work to avoid its divorce from medical practice. A progressive policy of decentralisation was being followed. Eight additional deputy sanitary commissioners were being created, for which appointments Indians possessing the necessary qualifications, as well as officers of the Indian Medical Service, would be eligible. He referred to the work on cholera and kala-azar conducted by selected medical officers, to the stegomyia surveys, and to the purpose to follow these up with inquiries into relapsing fever, elephantiasis, dysentery, and various types of pneumonia.

Town Planning.

Mr. E. G. **Turner**, I.C.S., the town planning expert of the Government of Bombay, explained how those methods are to be adopted in the suburbs of the city.

In the afternoon Mr. J. P. **Orr**, I.C.S., chairman of the Improvement Trust, Bombay, read an interesting, if somewhat lengthy, paper on Light and Air in Dwellings in Bombay, in which he spoke of the work of the Improvement Trust and his proposals to deal with insanitary houses.

After some remarks on town improvement in Lucknow by the Hon. Rai **Ganga Prasad Varma** Bahadur, a paper on the Housing of the Working Classes in Large Cities in India was read by Dr. J. A. TURNER, and was followed by other papers dealing with building by-laws and various town improvements and congested areas, and the necessity for more stringent laws and by-laws.

After some discussion on the various papers read, resolutions were passed recommending the introduction, on modern lines, of town planning schemes, and relief of congested areas, and the adoption of provision on the lines of the English Housing of the Working Classes Acts, 1890 and 1909, adapted to local conditions and the habits of the people, and suggesting as a measure of demonstration and education that model towns should be constructed on these lines.

The importance of the questions which came before the Conference on the first day cannot be exaggerated, but to what practical issue these resolutions will lead it is very difficult to say. It was pointed out that the building by-laws of Bombay were defective in many ways, while those of Calcutta were fairly satisfactory. In the former city the existence of overcrowded and insanitary areas is one of the chief factors in the sanitary condition of the city, while in other cities of India the overcrowded areas are small and easily improved, as they are not comprised of high, many-storeyed, overcrowded buildings as in Bombay.

On the second day arrangements were made to show the delegates the sanitary engineering sights of Madras and the interesting sewage disposal and water-supply works, under the direction of Mr. J. W. Madeley and Mr. E. P. Richards, engineers to the Madras municipality.

Plague.

Papers on Preventive Measures, by Lieutenant-Colonel S. BROWNING SMITH, I.M.S., and Captain W. C. ROSS, I.M.S.; on Rat Destruction, by Major W. GLEN LISTON, I.M.S.; on the Spread of Plague by the Grain Trade, by Captain F. NORMAN WHITE, I.M.S.; on Antiplague Vaccine, by Captain W. D. H. STEVENSON, I.M.S.; on Plague in Madras Presidency, by Captain TAYLOR, I.M.S.; on the Annual Reappearance of Plague, by Lieutenant-Colonel BROWNING SMITH; and on the Carrying over of Plague Infection during the Non-epidemic Season, by Captain J. C. G. KUNHARDT, I.M.S., were read and discussed.

Resolutions were passed to the effect that an encouraging advance in the knowledge of the etiology and epidemiology of plague has taken place; that the public should be strongly impressed as to the importance of the rat as a factor in the causation of this disease; that preventive measures should be pressed during non-epidemic periods; and that grain stores were a source of danger.

Travelling Dispensaries.

Travelling dispensaries formed the subject of papers by Surgeon-General BANNERMAN and Captain H. ROSS, I.M.S., and led to some discussion, with the result that a resolution was passed advocating their adoption.

Water-supply.

A whole day was taken up with this very important subject. Mr. CURTIS, I.C.S., Commissioner, C.D., came from Poona to explain the financial position of the Government of Bombay with regard to the improvement of the water-supplies of the Presidency. Major W. W. CLEMESHA, I.M.S., read three papers respectively, Silt Removal in the Hooghly, Mechanical Filters, and the Bacteriological Standard of Purity. Dr. F. MAITLAND GIBSON, Assistant-Surgeon E. C. R. FOX, and Rai KAILAS CHANDRA BOSE Bahadur, C.I.E., dealt with the chemical and bacteriological treatment of water; Captain C. L. DUNN, I.M.S., Mr. C. H. WEST, and Mr. J. M. LACEY discussed the filtration of water; while Messrs. MILLER BROWNLIE and NANJUNDAYYA BELVADI explained the system of the working of tube and artesian wells.

Discussing filters, Major CLEMESHA said that pressure filters gave very poor results from a bacteriological point of view, and could not be relied on to make a polluted water safe. Gravity filters gave very good results.—Mr. MADELEY disagreed with Major Clemesha that the initial cost of rapid sand filters was considerably less than slow sand filters; the relative cost, he said, depended largely on the cost of the land available and on cost of materials.—Dr. A. G. NEWELL pointed out that all the tests had been done with only one type of mechanical filter; that it was not true that the Jewell filter gave the dose of chemicals automatically, though it was true of the Paterson filter; and that the wash water should be sometimes as high as 20 per cent. of the total output of the water at once put the filter out of the range of practical politics.—Mr. DISNEY, however, said that Major Clemesha had over-estimated the quar[illegible] Jewell gravity filters. The [illegible] proper tests under equal [illegible] Jewell, the Paterson, and Mather and Platt's filters.

In his paper on Bacteriological Standards of Purity, Major CLEMESHA promulgated an additional test, while the conclusion might be drawn from Dr. MAITLAND GIBSON'S interesting paper on the Analysis of Potable Waters in the Tropics that on the whole we are not any further advanced in this question, especially as regards Indian waters.

In the afternoon a visit was made to the King Institute at Guindy, where Dr. MAITLAND GIBSON, Captain W. S. PATTON, I.M.S., and Captain F. W. CRAGG, I.M.S., gave most interest-[illegible] Vaccine [illegible] l a paper [illegible] MACKIE, I.M.S.—The Analysis of Water by Dr. GIBSON proved also of great interest to the delegates, while the various filter beds and model sewage disposal works were inspected by the delegates interested in those branches of sanitary science.—The hospitality of Mr. Justice Gibson and Mrs. Gibson, in the grounds of the institute, proved a delightful interlude to the strenuous work of the delegates.

In the early hours of the fourth day the waterworks were inspected, and in the forenoon the section broke up into two subdivisions. In one, cholera, dysentery, and diarrhœa, and papers on sewage disposal, &c., were dealt with. In the other, tuberculosis, fever, and relapsing fever were discussed.

Cholera, Dysentery, and Tuberculosis.

Major E. D. W. GREY, I.M.S., read four papers dealing with the cholera vibrio in the biliary passages, cholera convalescents and contacts, epidemics of cholera caused by a carrier, and on disinfection in cholera. Papers were also read by Captain T. H. GLOSTER, I.M.S., on the Bacteriology of Cholera from investigations made in Bombay; by Captain W. C. Ross on the Epidemiology of Cholera, in which he somewhat discounted the importance of water carriage in the spread of cholera; by Major S. A. HARRISS, I.M.S., on the Effect of Pipe-water Supplies on the Reduction of Cholera; Methods used in Bombay Presidency for Checking the Spread of Cholera in Urban Areas, by Major H. A. FORBES KNAPTON, I.M.S.; on Methods of Treating Cholera Outbreaks in the United Provinces, by Captain DUNN; and on the Bacteriology of the Cholera Vibrio and its Relation to the Spread of the Disease from the Point of View of the Health Officer, by Dr. TURNER. All these papers provided an immense amount of useful and interesting matter for discussion. With the material at the disposal of the bacteriologists of India, and with the improved laboratory technique, it is much to be regretted that some more definite statements were not forthcoming.

Resolutions were passed that there is strong evidence to show that in India, in addition to contaminated water, the four following factors are of great importance in the spread of this disease: (*a*) Convalescents dischaıged while still infected; (*b*) healthy persons who have been in contact with cholera cases, and have acquired the infection without showing any signs of the disease, but who are excreting cholera vibrios in their stools; (*c*) flies; and (*d*) the personal habits of the people

Dysentery was ably dealt with and discussed by Major W. F. HARVEY, I.M.S., Captain J. CUNNINGHAM, I.M.S., Captain J. MORRISON, I.M.S., Captain A. W. GREIG, I.M.S., and others.

The resolution regarding dysentery was purely negative, and recommended a fresh start in the investigation.

Tuberculosis especially gave rise to an interesting debate. Dr. P. S. CHANDRA SEKHAR read a paper on the Prevention of Tuberculosis in Madras, and Lieutenant C. J. FOX, I.S.M.D., one on Tuberculosis in its Relation to Public Health. In the discussion that followed Dr. NEWELL said there were three stages of the disease to be considered for preventive action. In the implantation stage in early childhood it was necessary to improve the ventilation of schools and homes, and the relief of congested areas. Expensive measures were not a necessity; open sheds with corrugated roofs could be used in place of the present unhealthy type of schools inside cities. The next stage was the earliest period at which it could be diagnosed. Here tuberculin dispensaries were recommended. The country was not ripe for sanatoria. The homes of the people should be tackled first. He regarded compulsory notification from medical men as essential.—Major GRAHAM said that in the United Provinces the sanatorium in the Kumaon Hills had to refuse many applicants for admission. He considered that it would be wrong in the present stage of our knowledge to introduce dispensaries wholesale, as little supervision would be given.—Dr. G. J. RUTHERFORD said that a dispensary and a sanatorium were being started in Ceylon. Notification was not compulsory in Ceylon, but was so in Colombo.—Rai Bahadur KAILAS CHANDRA BOSE, C.I.E., regretted that the public did not call more for both sanatoriums and dispensaries.—Dr. C. A. BENTLEY stated that his experience in Bengal showed that 5 to 10 per cent. of the mortality in rural areas was from phthisis. He thought many cases came to towns from rural areas, and so there was a difficulty to get these cases early. Hence he doubted the utility of sanatoriums.—Dr. NEWELL referred to the use of cattle dung in flooring as a dangerous element.

Regarding tuberculosis it was agreed that a thorough and full inquiry should be made into the incidence of the disease in India, and the usual measures were suggested, including improvement in general sanitation, opening up of congested areas, light and air, the promotion of antituberculosis societies, tuberculin dispensaries, control of milk supplies, and compulsory investigation of the disease in large towns.

Mediterranean Fever.

Major HARVEY read a paper, by Captains PATTERSON and BROWN, I.M.S., on Reflections and Proposals Resulting from an Inquiry into Epidemics of Malta Fever occurring in the 37th Lancers and 10th Lancers in India. The paper dealt with three distinct outbreaks, and raised the necessity for further investigation into the prevalence of the disease in India, its cause, and best means of detection and prevention.—Captain F. P. MACKIE, I.M.S., agreed with the authors' views, and said the disease was not readily recognised. He knew of one epidemic regarded by one officer as beri-beri and another as kala-azar, which on investigation by the Sleeping Sickness Commission was proved to be Malta fever.—Dr. NEWELL said that Malta fever definitely existed in Lahore, and goats examined by a local Indian Medical Service officer were found to be infected. Goats were often kept inside houses in cold weather, and it was probable that their urine was infected.—Dr. BENTLEY said that kala-azar often resembled Malta fever. An undulant fever was seen in many cases of kala-azar.—Major P. N. O'G. LALOR, I.M.S., invited attention to a peculiar form of fever in Burma in which the fever was distinctly undulant, and heavy perspiration with other symptoms suggested Malta fever.—Dr. KORKE said that in 56 cases of kala-azar he had seen in Madras none of them showed any signs of undulant fever.—Dr. BENTLEY replied that both perspiration and undulant fever were seen in many cases of kala-azar.

Enteric Fever.

Major E. D. W. GREIG, I.M.S., read a paper giving an account of the results obtained from the working of the recommendations of the Enteric Fever Research Committee of the Government of India.

(To be concluded.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Manchester Tuberculosis Scheme.

THE Manchester scheme for the treatment of tuberculosis has now practically reached its final form, though it has still to receive the sanction of the city council as well as the approval of the Insurance Commissioners and the Local Government Board. The scheme has been prepared by the tuberculosis subcommittee of the sanitary committee of the corporation. It includes the two units—dispensary and sanatorium. The dispensary is to be a receiving house and centre of diagnosis, a clearing house and a centre for observation, for curative treatment, for the examination of contacts, and for "after care," an information bureau, and an educational centre. The chief tuberculosis officer is to be independent of the medical officer of health in clinical matters, and is to have a salary of not less than £500, with assistants when necessary. As to the sanatorium, one bed is advised for every 5000 of the population, which would give Manchester about 150 beds. The incidence of phthisis is greater on Manchester than on the rest of the country in the ratio of 3 to 2. The scheme will embrace insured and uninsured persons, and will provide sanatorium accommodation with 412 beds. The annual cost of the scheme is estimated at £39,604. The Local Insurance Committee will have £15,000 a year, and it is proposed that £8000 of this sum be handed over to the corporation. Thus the annual expenditure will be £31,304 more than the income. Half of this will be paid by the Treasury, and half out of the rates, according to the provisions of the Act.

Manchester Royal Infirmary Annual Report.

From the annual report of the Manchester Royal Infirmary it is gathered that the aggregate number of cases of all kinds exceeds that for 1911. The board of management, in discussing the possible effect of the National Insurance Act upon voluntary hospitals, state that the work of obtaining new subscribers has been seriously interfered with. They are thankful, however, that the result of the year's work is a slight increase in annual subscriptions. If, however, the National Insurance Act had not been passed they do not doubt that the hospital would have gained a very substantial increase in the subscription list. One of their difficulties has been a widely spread belief that hospital treatment was included in the Act, and would be, or should be, provided at the cost of the State. They declare that the continued provision of hospitals is not merely a gratification of the collective philanthropy of the community, but an economic necessity. They also point out that special treatment for serious diseases of the eye, ear, throat, diseases of women, and for ailments needing X rays, and other treatment not provided for in the Act will be required as hitherto, while no curtailment of the out-patient work will arise in connexion with the uninsured poor. When the hospital was removed to the present site it was pointed out to the trustees that £12,000 in new annual subscriptions would be required to enable the institution to pay its way. In 1912 the total sum received in this way was £4024, so that there is still a deficit of £8000 a year in annual subscriptions. Nor is that all. A sum of £25,000 is required to build and equip the central branch for accidents in the city.

Colne Typhoid Epidemic.

Up to the present the cases of enteric fever at Colne number 68, with four deaths.

Feb. 10th.

BRISTOL AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

University of Bristol: Memorial to the late Chancellor; Honorary Degrees.

ON Feb. 7th the council of the University received a communication through the chairman, Mr. Lewis Fry, from the sons of the late Chancellor, Mr. Henry Overton Wills. Mr. G. A. Wills and Mr. H. H. Wills have offered £150,000 for the erection of a new block of buildings, which sum includes £20,000 endowment for upkeep; and Mr. Melville Wills offers £20,000 towards general endowment purposes. A committee was gratefully appointed to consider these offers. Mr. G. H. Oatley, the architect of the recently built wings of the University, has drawn up provisional plans. These, if accepted, will not merely constitute a very large addition to the University premises, but also will provide a commanding frontage on a main thoroughfare, and a tower which will be one of the most prominent features of the city. These buildings will be erected on the site now occupied by the premises recently evacuated by the Blind Asylum, and at present used for University libraries. They will contain the main administrative buildings, including the principal entrance, an assembly hall to seat 1200 persons, council room, registrar's department and general offices, the arts library, the medical library, and a considerable addition to the space available for teaching and student life, which also will be augmented by the fact that the premises now used for administration will once more become available for teaching purposes. The tower will be nearly 200 feet high, and as it will stand at the top of Park-street, the main thoroughfare leading from the city to Clifton, it will be a dominant feature of the streets of Bristol. Through its base, which will be 57 feet square, an entrance to the whole University will be provided, [illegible] ball. [illegible] comple [illegible] buted [illegible] It was Mr. Overton Wills's gift of £100,000 that brought the University into being, and this further gift will help to keep his memory green for future generations.—The controversy concerning the granting of honorary degrees on a large scale, as practised at the installation of Lord Haldane as Chancellor of the University of Bristol, has attained excessive proportions. Aspersions have also been thrown on the chairman of council, Mr. Lewis Fry, which are deeply resented not only by those who know from the inside the value of Mr. Fry's work for the University, but also by all his fellow-citizens. It has been further suggested that there is constant dissension between the council and the teaching staff; this has been repudiated by the Senate in a resolution forwarded to council. It is felt generally that the matter has been quite fully discussed, and that no useful purpose will be served by prolonging the controversy.

Bristol General Hospital and Insured Persons.

The committee of the Bristol General Hospital has given a lead, in a circular letter issued to the press and to all the subscribers, which will probably be followed by all the other local institutions in regard to the treatment of insured persons. It states the intention of the committee to act in harmony with the resolutions passed by the governors of St. Bartholomew's Hospital which will exclude from hospital treatment all insured persons suffering from such ailments as can be dealt with by the panel practitioner, while admitting urgent cases and cases in which a second opinion and special treatment are desirable. The letter gives as a reason for this decision the desire of the committee to use the funds of the hospital and the energies of the staff to meet such needs on the part of the sick poor as cannot be met in any other way. The new rules will come into force from the beginning of March.

Clifton Dispensary.

At the annual meeting of subscribers it was stated that during the past year 2730 cases had been admitted to treatment at the Clifton Dispensary, a small reduction on previous years. It was urged that money would still be needed in spite of the Insurance Act, since this does not yet provide for the treatment of the dependents of insured persons and others who are outside its scope. The committee has decided to exclude all insured persons from the benefits conferred by the dispensary. Notwithstanding this decision subscriptions are said to be coming in satisfactorily.

The Treatment of Tuberculosis in Bristol.

The Bristol health committee are taking steps to provide [illegible] ing a larger [illegible] by adding [illegible] r hospital. A few cases have already been treated at the latter institution, and their favourable progress has encouraged the committee to believe that good results will be secured when new and specially designed premises are available there. There is still some doubt as to the exact extent of additional accommodation required. Provision is being made for dispensary treatment. It is announced further that a voluntary committee has taken in hand the provision of open-air schools and other necessaries for the treatment of tuberculous school children. Land will be acquired at a nominal rent, thanks to the kindness of Lady Greville Smyth, and it is hoped that if funds are forthcoming the school may be begun in the summer of this year.

Bristol Insurance Committee.

The Insurance Committee is getting to work, and several matters of medical interest were dealt with at its last meeting. There have so far been 228 applications for sanatorium benefit: of these, 47 are receiving sanatorium treatment, 56 dispensary treatment, and 49 domiciliary treatment. The sum allotted by the Commissioners (£4300 per annum) is not nearly adequate; it was suggested that £8000 would be needed for the treatment of insured persons suffering from tuberculosis. The medical service subcommittee has been appointed; the five medical representatives are Mr. H. F. Devis, Dr. T. M. Carter, Mr. G. S. Page, Mr. T. A. Collinson, and Mr. G. Scott Williamson. Dr. Bertram M. H. Rogers has been appointed Medical Inspector at a retaining fee of £50 for three months.

The Exeter Infectious Diseases Hospital.

The Local Government Board has granted permission to the Exeter city council to borrow the sum of £15,190 for the purpose of the extension of the Infectious Diseases Hospital. The council has accepted a tender for the scheme, but owing to the increase in the cost of building materials it was found necessary to ask permission of the Local Government Board to borrow an additional £2360.

Medical Officer of Health for 40 Years.

The Taunton press has been drawing attention to the fact that Dr. Henry James Alford has held the appointment of medical officer of health for 40 years. Dr. Alford states that the population of Taunton in 1871 was 14,957; in 1911 it amounted to 22,563. The death-rate for the decade 1871 to 1881 was 21·2, and for the ten years ending 1911 the death-rate was 14·6 per 1000. In 1873 the inhabitants of Taunton obtained their water mostly from wells, many of which were polluted; at the present time the water company's reservoirs have storage capacity for 158,000,000 gallons.

Devon County Council and Tuberculosis.

The Central Tuberculosis Dispensary, which has been established by the Devon county council at Exeter, was formally opened on Feb. 3rd. The medical officer for the institution is Dr. H E Goulden, who was formerly school medical inspector for the Barnstaple district of Devonshire.

Death of Mr. George Mark Archibald Rudkin, L R.C.P. & S. Irel.

Mr. G. M. A. Rudkin died at his residence, 2, The Crescent, Teignmouth, Devon, on Jan. 28th. Mr. Rudkin, who qualified as L.R.C.P & S. Irel. in 1870, had been for more than 30 years in practice at Teignmouth, and at the time of his death was consulting surgeon to the Teignmouth Infirmary and to the convalescent home. He was medical officer to several friendly societies, and had been surgeon to the Oddfellows for 25 years. He took a great interest in all local matters connected with Teignmouth, and was president of the local literary society. Mr. Rudkin will be much missed in Teignmouth. His funeral took place on Feb. 1st, and the attendance included several members of the profession.

Feb. 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Scottish Poor-law Medical Officers' Association.

THE annual meeting of the Scottish Poor-law Medical Officers' Association was held at the St. Enoch Hotel, Glasgow, on Jan. 31st. The report for 1912 stated that in every case of retirement the outgoing medical officer had supplied all necessary information for the incoming officer, and that there had been no complaints of unjust treatment and no case of dismissal of an officer by his parish council. This improvement upon past years justified the formation of the association. Vacancies existed in 17 parishes, several of them appearing year after year, owing to isolation, inadequate income, and so forth. In one case of a parish without a medical officer a neighbouring practitioner found it absolutely necessary to look after several paupers, and rendered his account to the parish council, which, however, refused to pay it, as the inspector stated he gave no written instructions to the practitioner to attend. The medical man was advised not to attend paupers in future without an order, to send in his account again, and on refusal to acquaint the Local Government Board with the facts, and, failing satisfaction, to raise a small debt action in the sheriff's court. As nothing further has been heard the matter is probably settled. With regard to the difficulty in prognosis. The treatment has demonstrated with great regularity the curability of deep angiomas (certain of which were treated in conjunction with Dr. Barbarin), and also the frequent cure of superficial cancer. With regard to deep cancers, radium was used with a purely palliative aim, and its use was in most cases followed by a temporary amelioration. Nevertheless, the result obtained amounted practically to a cure in certain cases of deep cancer of the parotid, the neck, and the uterus, the retrogression of which from the clinical point of view has persisted for three or four years. In spite, however, of the favourable results in some deep malignant tumours, still the authors think that the most advantageous field for the employment of radium is as an accessory to proper operative measures.

Feb. 10th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Question of Foreign Medical Students in German Universities.

FOLLOWING the example set by the medical students of Halle, the Berlin medical students recently held a meeting to protest against the overcrowding of the lecture-rooms and clinics by foreign students. Delegates from Halle were present and gave a report of the state of the anti-foreign movement at other universities. The meeting then passed a resolution to the effect that foreign medical students should be allowed to register only a fortnight after the beginning of the lectures, and that the first three rows in every lecture-room should be reserved for German students. Foreign students should not be allowed to act as dressers and clinical clerks unless no German student was applying for the appointments in question; they should pay double fees for the lectures, and be admitted only in a certain proportion to the German students. They must have passed the German examen physicum or a similar one in their native country previously to being admitted to the clinics. These demands are obviously far from being reasonable, and are much more severe than the original demands of the students in the University of Halle, who, as has been mentioned in this column, for a time refused to attend lectures in the end of last year, but returned to their studies after the Christmas holidays. The Government has promised to stop to a certain degree the invasion of foreign students, but will certainly not consent to measures which practically amount to a total exclusion of foreigners.

Prussian Schools in Rural Districts.

At a recent meeting of the Society for School Hygiene Herr Ströde read a paper on schools in rural districts in Prussia regarded from a hygienic point of view. Herr Ströde, who is a teacher in a school of this description, said that remarkable progress had been made in the construction of school premises since 1895, when new regulations were issued, but that the older premises, which were, of course, in the majority, were unsatisfactory. The rooms were cleaned only twice a week, and that by the children themselves. The rooms were often used for public meetings in the evening, so that the next morning the air was foul with tobacco-smoke and dust. The supply of drinking water was also open to objection, as there were sometimes no wells and the water was kept in a bucket placed in the class-room. The drinking glasses were insufficient in number, so that several children had to use the same glass, a condition which was very favourable for the spread of infectious diseases. It was very undesirable that school children should be engaged in agricultural work. Before going to school in the morning they had often to feed the cattle, and after school to drive the cattle to pasture, and must then learn their home lessons lying on the ground. The results of school training under these circumstances were doubtful, especially as the classes were often overcrowded. Herr Ströde strongly recommended the appointment of school medical officers in country places on somewhat the same system as exists in England, the district medical officer of health having already too many duties to be able to supervise school hygiene also. He considered that teachers ought also to have some instruction in hygiene, and to inform the parents when the children's health was unsatisfactory.

Dr. Friedmann's Treatment of Tuberculosis.

As already stated in these columns, the success of Dr. Friedmann's treatment of tuberculosis has been greatly exaggerated in the lay press, especially in foreign countries. The warnings of the medical press, including THE LANCET, have apparently been unheeded. At the beginning of a recent meeting of the Berlin Medical Society Professor Bier made a statement explaining his position in reference to the subject. He said that in consequence of certain foreign newspapers having mentioned his name in connexion with Dr. Friedmann's treatment he was continually receiving letters, especially from America and Spain, inquiring whether the new treatment was really so efficacious as reported in the journals of those countries. Patients also sometimes came from distant places to be under his care while receiving the treatment, because they believed that he was convinced of its advantages. He wished, therefore, to state as his opinion that he had the impression that Dr. Friedmann's remedy had a certain action on tuberculosis, but that it was in no way more efficacious than other methods of treatment. He could as a surgeon only speak of external tuberculosis, but he mentioned that Dr. Friedmann had declined to treat severe cases which afterwards showed some improvement under other methods. He regarded it as very undesirable that a system of treatment which was not yet sufficiently tested, and had hitherto been only used by Dr. Friedmann himself, should be lauded in the foreign press as affording a sovereign remedy. If the remedy should eventually turn out to be inefficacious much harm would be done to German medical science and to the Berlin Medical Society by the publishing of uncontradicted statements asserting that the members of the society had expressed themselves in favour of the remedy. He hoped the journals which had reported that he had recommended Dr. Friedmann's treatment would also insert his present statement. One result of the publicity given to Dr Friedmann's views has been that the Socialist section of the Berlin town council moved that the mayor and magistrates should take steps to prevent patients in municipal hospitals and inmates of orphanages from being used for therapeutical experiments unless under the special responsibility of the chief physician and with the consent of the patients or their guardians. The supporters of the motion, which after some discussion was, however, withdrawn, took this action in consequence of a statement to the effect that Dr. Friedmann had given injections of living tubercle bacilli to children in one of the municipal orphan asylums.

Migratory Impulse in Children.

Some interesting facts connected with the migratory impulse in children were mentioned by Dr. Stier in a paper read at a recent meeting of the Society for Internal Medicine. He said that during the past three years he had seen no fewer than 120 children brought to the out-patients' department of the Charité Hospital because they had repeatedly run away from home. The motive which led them to behave in this way was, of course, not always the outcome of a morbid condition, and was frequently nothing more than a spirit of adventure. Whether a given case was a pathological one or not could be ascertained only by the history of the child and the circumstances surrounding the act. It was quite useless to ask the children as to their motives. Some writers on the subject alleged that epilepsy was frequently the cause of children running away from home, but in actual fact this condition was seldom found among them. In two cases only a post-epileptic feebleness of mind was present; seven other children had had epileptic fits but a connexion between the fits and the migratory impulse was very uncertain. Hysteria was also rare among the children. The majority belonged to the feeble-minded and psychopathic class. Some of them had been so much impressed by some event in the street, such as a procession or a military band passing along, that they simply forgot to return home, and under these circumstances might absent themselves for a considerable time. Some were very irritable, and in consequence of depressing conditions at home or in school were brought to a state of frenzy which prompted them to run away. Another group were labouring under hallucinations and delusions of fear. Ethical defects were present in a certain number, and it was sometimes difficult to determine whether these children were psychopathic or only the victims of neglect. In some the inclination to run away was caused by an irresistible impulse without any obvious cause. Dr. Stier said that he had seen two cases in which the impulse was hereditary through three generations, occurring always at the age of 12 years. The prognosis was not unfavourable provided the children were under constant control in an institution of some kind.

A Carrier of Enteric Fever Bacilli.

In an outbreak of enteric fever which recently occurred in the barracks of the regiment of railway pioneers in Hanau, near Frankfort, some of the men at first presented symptoms of bronchitis and atypical fever, but after a few days suffered from diarrhœa, and bacteriological examination showed the presence of enteric fever bacilli. The disease spread rapidly over the whole barracks. The cause of the epidemic was after careful inquiry traced to a woman employed in the kitchen; she had suffered from enteric fever a few years ago, and was now found to be still carrying the bacilli of that disease. It was ascertained that the infection had been conveyed by potato salad which she had prepared, and she was of course removed from the barracks. The total number of patients infected from this source was 226, of whom 14 died.

Feb. 10th.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

Committees on Rural and Urban Sanitation.

THE attention of the people, both professional and lay, of the United States, and particularly of New York State and City, is being directed to hygienic and sanitary matters very much of late, partly through the medium of the medical and secular press. Committees have been appointed by the new Governor of the State to study the question of rural and urban sanitation, who are expected as a result of their investigations to formulate ways and means to remedy existing evils.

The Port of New York.

The attitude of Dr. O'Connell, the port medical officer, in declaring for a continuance of State control of the port of New York rather than for its transference to Federal authorities, is greatly to be regretted. Statistics disclose the great importance of New York as the principal port of entry for imports and immigration not only to the City and State of New York, but to the country at large. Federal control of quarantine has justified itself more and more whenever it has been tried, while local management has miserably failed in many ports because of local prejudices, notably San Francisco during the plague fright some years since.

Proposed Sanitary Regulation of Marriage.

A New York State Senator has introduced a Bill providing that on application for a licence to marry each party to the contract must present a certificate from a licensed practitioner showing freedom from disease due to immorality. This measure has in principle been advocated by medical associations, but it is hardly specific enough to have the desired preventive effect. No such legislation is really likely to be of practical good yet, but this measure, to be logical, should be made broader by excluding also conditions [illegible] esults of matrimonial alliances. [illegible] local boards of health so as to [illegible] who would naturally be the one [illegible] to protect the family, and also would prevent hasty approvals without careful examination into the history, and allow of an examination by those less likely to be influenced by association or otherwise.

The Society of Medical Economics.

A new society of medical men called The American Society of Medical Economics has been established to devote its attention to questions bearing upon the economics of the practice of medicine. It will seek to protect the public against ignorant, improper, and corrupt legislation, medical frauds, substitution, drug store dispensing, the sale of impure drugs and foods, as well as all forms of quackery.

Restriction of the Sale of Cocaine in New York.

A new Bill is to be presented to the New York Legislature making the sale or possession of cocaine by an unlicensed person in New York City a felony, punishable by seven years' imprisonment. The Bill provides that the possession of cocaine by a licensed pharmacist shall be limited to 5 ounces at any one time; that the chemist shall not sell the drug in flakes or crystals, but must dispose of it in a solution or ointment of not more than 4 per cent., and keep a record of all sales; that prescriptions containing cocaine shall not be refilled; and that no sale of more than 1 ounce shall be made to any one person by the pharmacist.

A Filthy Practice.

The Buffalo (New York) Health Department has been making [illegible] condition of finger bowls in [illegible] Brass finger bowls are declared [illegible] has been made that they spread disease be[illegible] them thoroughly. [illegible] that waiters are [illegible] has been previously used. As many persons wash their lips, as well as fingers, in such bowls. the danger is obvious. It needs also to be insisted on in public eating-places that waiters shall not be allowed to sneeze in such places without protecting their nose and mouth with their handkerchiefs, instead of with the napkins which they are continually using.

Society for the Advancement of Clinical Study.

There has recently been organised in New York City the Society for the Advancement of Clinical Study, which will maintain a bureau of information where resident and visiting physicians can obtain definite information regarding the clinical facilities of the hospitals and laboratories of the city. A bulletin board has been installed at the Academy of Medicine, 19, West Forty-third-street, with a special clerk on duty between 9 A.M. and 6 P.M. to answer telephone inquiries. On the bulletin board will be posted month by month the regular clinics, medical and surgical, and also laboratory demonstrations, all of which are held at stated hours. Full announcements of daily operations and demonstrations of cases both medical and surgical will, as far as possible, be made on the day preceding their performance. Visiting medical men interested in observing particular operations or the work of particular operators or physicians will thus attain their object with the least trouble. It is hoped that the unexcelled clinical facilities of New York City will thus be made more generally accessible.

The New York Neurological Society.

The following officers have been elected to serve for the year 1913:—President: Dr. Smith Ely Jelliffe. First Vice-President: Dr. E. G. Zabriskie. Second Vice-President: Dr. E. W Scripture. Corresponding Secretary: Dr. J. Ramsey Hunt. Recording Secretary: Dr. C. E. Atwood.

Feb. 1st.

HARVEIAN SOCIETY OF LONDON.—On Thursday, Feb. 20th, at Stafford Rooms, Titchborne-street, Edgware-road, W., there will be a discussion on the Diagnosis of Acute Abdominal Conditions in Children, opened by Mr. E. M. Corner and Dr. E. Cautley, and continued by Sir James Goodhart, Mr. V. Warren Low, Dr. G. F. Still, and others.

THE ASSOCIATION OF CERTIFIED DISPENSERS.—The annual meeting of this association was held in the Court Room of the Apothecaries' Hall, Blackfriars, E.C., on Feb. 6th, Mr. Montagu G. Smith, of the Lewisham Infirmary, presiding. The balance-sheet and annual report showed satisfactory progress, but Mr. A. Howell, who presented the report, stated that the proposed Bill on behalf of dispensers still waited a suitable opportunity to be put before Parliament. Mr. Howell then gave in his resignation of the post of honorary secretary, which was accepted with regret, and on behalf of the members was presented with a gold watch by the chairman, who in a reminiscent speech alluded to the success of the association [illegible] Mr. A. Mowbray [illegible] poke to the same [illegible] elected. Mr. Montagu Smith and Mr. A. [illegible] n were unanimously re-elected chairman and treasurer respectively. Mr. F. E. Trayner, of Hackney Infirmary, Homerton, N.E., was appointed honorary secretary, to whom all communications should be addressed at 13, Carlton-road, Manor Park, E.

Obituary.

HENRY EALES, M.R.C.S. ENG.,

SENIOR SURGEON TO THE BIRMINGHAM AND MIDLAND EYE HOSPITAL.

WE regret to learn the death of Mr. Henry Eales, which occurred after a short illness on Feb. 8th at 3, Queen's Court, Hagley-road, Edgbaston. The son of the vicar of Yealmpton in Devonshire, Henry Eales was born at Newton Abbot in 1852, and began his medical career, as was customary in those days, by being apprenticed to the village doctor. During his apprenticeship there was a local epidemic of scarlet fever, and having to examine the urine of many patients for albuminuria, out of curiosity he examined his own and found that it contained a large amount of albumin. As he had not had fever it is probable that it was merely the albuminuria of adolescence, but little was known on this subject at that time, and so serious was the view taken of his condition that for about a year he was not allowed to continue his medical work. But later, as his general health remained good, he was permitted to proceed with his career, and entered as a student at University College, London, where he gained two silver medals in anatomy and one in materia medica. He took the Membership of the Royal College of Surgeons of England in 1873, and went to Birmingham as house surgeon to the Birmingham and Midland Eye Hospital. At the termination of this appointment he became demonstrator of anatomy and medical tutor at Queen's College, but a vacancy occurring on the staff of the Eye Hospital in 1878 he was elected one of its honorary surgeons. He served the charity, therefore, for 35 years, for several of which he was senior surgeon, while he was also ophthalmic surgeon to the Guest Hospital, Dudley, to the Hammerwich Hospital, Cannock, to the Balsall Heath Dispensary, to the Edgbaston Royal Deaf and Dumb Institution, and medical referee for ophthalmic cases under the Workmen's Compensation Act. At the annual meeting of the British Medical Association in Birmingham in 1911 he presided over the Section of Ophthalmology. He held office as vice-president of the Ophthalmological Society, as chairman of the Pathological Section of the Birmingham branch of the British Medical Association, as president of the Midland Medical Society, and treasurer of the Birmingham and Midland Counties Ophthalmological Society. He delivered the Middlemore lecture for 1897. At one time he contributed a good many papers to the medical journals, including a Report on the State of the Retina in a Hundred Cases of Granular Kidney (*Birmingham Medical Review*, 1880), Uni-Ocular Retinitis Albuminurica, and Toxic Amblyopia (Transactions of the Ophthalmological Society). He was particularly skilful in the use of the ophthalmoscope, his opinion of the appearances being of the utmost value to those who sought his advice in doubtful cases. As a result of wide knowledge and technical skill he built up a large consulting practice, and his death will come as a painful surprise to a wide circle of practitioners and patients who relied upon his counsels.

The albuminuria which had shown itself during his apprenticeship entirely disappeared by the time he went to Birmingham, but he suffered at one time severely from migraine, which became less frequent during recent years. Last Christmas most of his family were ill with influenza, but he appeared to escape; soon afterwards, however, he developed a slight attack of phlebitis in the calf of the left leg. This seemed to get better, but the pain and swelling returned in about ten days, so that he was obliged to stay in bed. On Feb. 5th he had an attack of vomiting with syncope, and this was followed by a rise of evening temperature. These symptoms were gradually improving, and on the morning of the day he died he looked and expressed himself as feeling decidedly better; but a few hours later he died in another attack of syncope. He leaves a widow, two sons, and two daughters; the elder son is senior curate at Kenilworth, while the younger is the resident surgical officer at the Eye Hospital.

Henry Eales was a man of singularly amiable character, and his death makes a gap which to his older colleagues can never be filled. They were sincerely attached to him for his unfailing kindness of disposition, his high character, and thorough loyalty and devotion to his work.

LEONARD NOON, M.B., B.C. CANTAB., F.R.C.S. ENG.

WE regret to record the death of this brilliant young medical man, which occurred, at the age of 35, on Jan. 20th, after two years of illness. Leonard Noon was educated at Charterhouse and Trinity College, Cambridge, studying medicine at that University, at St. Bartholomew's Hospital, and at the Pasteur Institute, Paris. In succession he was the John Lucas Walker student at Cambridge, house surgeon at St. Bartholomew's Hospital, research student in bacteriology at the Lister Institute, and assistant and research worker at the Inoculation Department of St. Mary's Hospital.

After leaving St. Bartholomew's Hospital Noon was engaged almost exclusively in investigating questions of immunity, his work being of a general theoretical nature rather than leading to a direct practical application. This work included investigations into the nature of the toxins and antitoxins of tetanus, the mechanism and localisation of the production of antibodies, the significance and reliability of serum reactions, and similar researches, papers on these subjects appearing in THE LANCET, in the *Journal of Pathology and Bacteriology*, and in the *Journal of Hygiene*. A research which he developed to a practical application was an offshoot from such work as this—namely, the active immunisation against hay fever by means of inoculating extracts of pollen. A paper describing the prophylactic and therapeutic application of this work appeared in THE LANCET on June 10th, 1911, and experience since then has undoubtedly demonstrated the accuracy of his work and its promise for good in the treatment for hay fever.

In private life his interest in volunteering and rifle-shooting dated from his presence for two successive years in the winning public schools team at Bisley for the Ashburton Shield, and this interest he maintained through life. In addition to this, mountain climbing fascinated him, as it often does the strongly intellectual mind. He had not an enemy in the world, and the turn of mind which made him both a wit and an investigator gave him a host of friends and an interest in almost any subject. In fact, Noon was one of those few who really are designed by nature for research work. He had a mind extraordinarily fertile in bold generalisations and new conceptions, and yet he was very ready and ingenious in destructive criticism. He was not, perhaps, very well known to the general profession, for he regarded private practice as interesting indeed on its personal side, but rather an interruption to research; but, as those who were connected with him in laboratory work well know, his early death has deprived English medicine of a powerful brain and of valuable help in the future.

JOSEPH BAYLEY, M.R.C.S. ENG., L.S.A.,

MEDICAL SUPERINTENDENT OF ST. ANDREW'S HOSPITAL, NORTHAMPTON.

Mr. Joseph Bayley, for many years medical superintendent of St. Andrew's Hospital for Mental Diseases, Northampton, whose death at Bryn-y-Neuadd, Llanfairfechan, after 11 weeks' illness we announced in our issue of Jan. 25th, was one of the most highly respected residents of Northampton, a man of conspicuous ability in his profession, and an exceptionally successful organiser. His life work was bound up with the institution with which he was so honourably associated for 48 years.

He was born in January, 1836, and was the son of Dr. Joseph Bayley, of Odiham, Hampshire. He was educated at Reading School, and proceeded to King's College, London, where he completed his education and duly qualified. He entered the Royal Navy as a surgeon, and on the outbreak of the Crimean war served with the Baltic Fleet on board H.M.S. *Colossus*, one of the first-class line of battleships, and was present at the bombardment of Bomarsund and at Kronstadt. For his services he received the Baltic medal. At the conclusion of hostilities he was appointed surgeon on H.M.S. *Shannon*, a vessel of the frigate order. He did not continue long in the navy, but resigned his commission to enter the lunacy service, in which he remained until the end, and to which he made important contributions of a reformative character.

Mr. Bayley's first appointment in his new sphere was that of assistant medical officer at Leicester County Asylum. He afterwards became assistant medical officer at the Salop and Montgomery Asylum, Shrewsbury, under Dr. Oliver, whose daughter he married. On the death of Dr. Oliver he was appointed superintendent of the Shrewsbury Asylum, and in 1865 he was appointed medical superintendent at St Andrew's Hospital, Northampton Here for nearly 50 years he devoted himself to the welfare of the institution, which under his skilful administration became one of the leading asylums of its kind in the country. In the management of the hospital itself, no less than in the treatment of patients, he was most successful, and St Andrew's became recognised as one of the largest and best places for the treatment of patients of the upper and middle classes When he went to Northampton an average of 20 private patients were admitted during the year, nearly 100 are now admitted, and the total number of inmates is about 450 In 1865 the asylum possessed about 100 acres of land, it now owns, including the Welsh estates, over 1000 acres, while the buildings have been repeatedly enlarged and remodelled, so that the hospital now possesses hardly a feature in common with the institution of half a century ago In the care of the patients Mr Bayley always laid special emphasis on the importance of pleasant surroundings and recreations, and his interests, apart from athletics and sport, were mostly confined to the development of the hospital and its estate His work proves him to have been a shrewd, capable, far-seeing man, of large organising power and practical enterprise Clear of perception and of ready decision, he may have seemed sometimes a little quick-tempered, but at heart he was kind and considerate

An old friend and professional colleague writes "Now that his lamented death has terminated a long and much valued friendship, I cannot refrain from giving expression to the feelings of admiration which I have always entertained for his attainments as a physician and his skill in that branch of the profession which he had adopted and for so long practised In the ranks of the alienists Mr Bayley's death creates a loss which it will be difficult to fill, for it was to the position he occupied and which was so widely recognised that the success of St Andrew's as a hospital for the care and treatment of the mentally afflicted was due St Andrew's before his time was a struggling institution with scarcely any but local connexion Patients from all parts of the kingdom, of all degrees, are now sent—a tribute, indeed, to the skill of the superintendent and to the widespread nature of his reputation It has happily been Mr Bayley's lot to complete the work to which he had devoted his lifetime "

DEATHS OF EMINENT FOREIGN MEDICAL MEN —The deaths of the following eminent foreign medical men are announced —Dr Reyter, a Belgian military surgeon, who after serving for some years in the Congo, was appointed physician to the King of Siam, Chulalong-Korn, and continued to act in [illegible] is ennobled with [illegible] " which is unders[illegible] — Kristian Thue, formerly senior medical officer of the Christiania communal infirmaries and of the deaconesses' home In early professional life he had been assistant in the Pathological Institute —Dr A Viaud Grandmarais, formerly professor of medical pathology in the medical school of Nantes —Dr Paulin-Méry, formerly a deputy for Paris —Dr W Mitlacher, extraordinary professor of pharmacology in Vienna —Dr. Philipp Steffan, formerly eminent [illegible] h retired for some years His [illegible] *privat docent* of neurology in the [illegible] A Panella, *privat docent* of physiology in the University of Pisa

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ROYAL UNITED HOSPITAL, BATH —The annual meeting of the subscribers to the Royal United Hospital was held on Jan 29th under the presidency of the mayor The medical report was satisfactory, and the financial statement showed a deficiency of £1982 at the close of 1912 The proceeds of the special fund raised by Mr A S Wills, to which the late Mr Overton Wills contributed £500, have been used for carrying out several improvements in the hospital, including the installation of an electric lift The chairman referred to the small contributions received from churches and chapels, and suggested the adoption of the custom, observed in Bristol, of having a special Hospital Sunday.

THE NATIONAL INSURANCE ACT.

THE WORKING OF THE ACT

ALTHOUGH it is still too soon to give any definite opinion upon the working of the National Insurance Act, the numerous questions which have been raised in the House of Commons and reported in our Parliamentary Intelligence indicate that difficulties of every kind are being experienced by many of those engaged in administering or providing medical benefit After making due allowance for the political motive behind some of the questions asked in Parliament, the feeling remains that the Government's answers have been at least as ingenious as satisfactory The replies given by Ministers or their responsible supporters have so far thrown little light upon the practical problems of medical benefit, although it is obvious that great efforts are being made to provide the insured with a satisfactory medical service of the kind which the Government desires The official suggestion, however, is that everything is already going on smoothly and satisfactorily, or in the alternative, that all would be well if it were not for the unreasonable opposition of a section of the medical profession The matter can scarcely be left at that, the position is too serious So far as information is at present available, the medical machinery of the Act seems to be working adequately in some districts, but there are undoubted grounds for the irritation which is felt by so many practitioners This irritation, although widespread, is due to different causes in different localities, and it is the duty of those responsible for the administration of the Act to group the various causes together and prescribe remedies which can be applied on a large scale The present impression is that the Act cannot escape amendment, but the exact lines which such alteration should follow have yet to be defined

THE LONDON INSURANCE COMMITTEE

We have received the following election address from Mr E B Turner and Mr Evan Jones —

"Having been requested by a large number of practitioners to stand for election as representatives of the medical profession on the London Insurance Committee we have consented to do so, and ask for your votes and support for the following reasons We hold (1) that the two practitioners elected by the profession to serve on the Insurance Committee for the London area should be entirely independent of the control of that committee, (2) that the interests of the very large number of men who have declined to serve under the Insurance Act and Regulations should be safeguarded as far as possible on that committee by the directly elected representatives The six other medical men nominated and appointed by the Commissioners and the County Council respectively will amply suffice to voice the wishes of those gentlemen who are now serving on the panels, but it is extremely unlikely that they will give any very active support to those who have declined to work under the Act If elected we shall consider that we represent the whole of the profession in London, and shall do our utmost to further the interests of every member of that profession whether he be working under the Insurance Act or not

(Signed) EVAN JONES
E B TURNER"

THE CASE OF THE DEPENDENTS

An interesting situation has arisen in Monmouthshire between the Eastern Valleys Medical Association and the workmen in the district with regard to the terms upon which medical attendance should be rendered to the families and dependents of insured persons Previous to [illegible] this district had [illegible] received 3*d* in [illegible] n return for that [illegible] the arrival [illegible] under the [illegible] go The [illegible] to attend [illegible] There had been originally a suggestion that the sum should be 2½*d*, inasmuch as it was, and is, expected that in some directions there may be an increase of work for the medical practitioners as well as a slight diminution of returns. Now, however, the medical practitioners have agreed upon the smaller sum. But recently they have been asked to meet the Monmouthshire Insurance Medical Committee, which, despite its title, is a lay body, being a subcommittee of the Monmouthshire Insurance Committee for the purpose of medical organisation, when the following terms were submitted to them:—

1. That each person agree to pay 2*d.* in the £ of all wages earned.
2. That such person be allowed a free choice of doctor.
3. For the above payments the doctor to provide medical attendance, including drugs, &c., as has been the custom hitherto, also medical certificates.
4. The medical attendance to include abortions and midwifery.
5. That the doctors agree for the money deducted from the wages of the workmen to be transferred to a committee to be appointed at each colliery, works, or factory.
6. That these terms and conditions be operative until June 30th.

Now to Clause 4 the medical profession forming the Eastern Valleys Medical Association object strongly, while they refuse to be impressed by the fact that in other districts certain practitioners have consented to the principle of free midwifery, as it is known that this concession was only granted under a misapprehension. We understand that temporarily the medical men will give their service in obstetric cases where required, but after June 30th they intend to charge an extra fee of 10*s.* 6*d.* for abortions and midwifery, though they will continue to attend, as before, emergency cases of midwifery gratuitously.

To Clause 5 also the medical men object strongly, and the principle that they stand for—viz., that the money which they have already earned should continue to come straight from the works and not through the hands of any committee—seems to us unassailable by logic. The money has already been earned by the medical men at the time when the wages are due. Why should it not be paid straight to them if they so desire it? Why should it be lodged first with any committee of the workmen? The workmen can only desire to obtain control over the money which the medical profession has already earned so as to obtain some kind of undue influence. No safeguard against medical aggression can possibly be necessary, as the community has complete freedom of choice of doctor; and in no event can it be a respectable proceeding to retain money which has been earned in order to secure power over those who have earned it. We cordially recommend the Eastern Valleys Medical Association to maintain their point.

We may add that the matter has nothing to do with the National Insurance Act in its present form, although it is convenient to refer to it under this heading. The position of the Monmouthshire Insurance Medical Committee in the matter is a little difficult to understand; the question is one to be settled by the workmen and the medical profession, and has to do with services to be rendered outside of the scope of the Act.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Wossidlo, an eminent urologist; Dr. Theodor Landau, a sanitary councillor of gynæcological eminence; and Dr. Otto Kalischer, whose researches on anatomical and physiological questions have long been recognised as valuable contributions to our knowledge, have been granted the title of Professor.—*Bonn:* The dissertation for the M.D. degree may now be presented in German.—*Carlsruhe:* Dr. v. Beck, chief surgeon to the municipal hospital, has been granted the title of Professor.—*Catania:* Dr. Ignazio Beltiore, of Naples, has been recognised as *privat-docent* of Clinical Chemistry.—*Leipsic:* Dr. K. Sudhoff, extraordinary professor of the history of medicine, has been promoted to Honorary Ordinary Professor.—*Montpellier:* Dr. Grasset, professor of clinical medicine, has been appointed to the chair of General Pathology and Therapeutics, in succession to Dr. Rauzier, who has taken Dr. Grasset's chair.—*Munich:* Dr. Georg Mayer, *docent* of hygiene in the military medical school, has been promoted to Professor.—*Wiesbaden:* Dr. Nikolaus Gierlich has been granted the title of Professor.—*Würzburg:* Dr. Martin Benno Schmidt, of Marburg, has been offered the chair of Pathological Anatomy in succession to Dr. Kretz, who is retiring. Dr. J. Riedinger has been recognised as *privat-docent* of Orthopædic Surgery and Mechanical Therapeutics.

THE ALBERT MEDAL FOR A WILTSHIRE NURSE.—The King has awarded the Albert Medal of the Second Class to Miss Elizabeth Holley, of Kingsdown House, Box, in recognition of her gallantry in endeavouring, at great risk to her own life, to save the life of a patient who suffered from suicidal tendencies, and who, while under the charge of Miss Holley, was killed by a train at Box station in November last.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY: THE ANNUAL DINNER.—The annual dinner of the West London Medico-Chirurgical Society was held on Feb. 6th, at the Hotel Great Central, Dr. G. P. Shuter, the President, being in the chair. Mr. Richard Lake, in proposing the toast of "The Imperial Forces," spoke in favour of universal military service, which our more democratic colonies, Australia and even South Africa, had adopted. He commented on the inconsistency of the Socialist Party, which vehemently opposed it, whereas military service, like every other public service, ought logically to form part of their programme. Sir W. Launcelot Gubbins, Director-General A.M.S., in responding, gave a historical retrospect of the political events of 1813. Coming to present times, he praised the newly organised colonial forces for Imperial defence. As evidence of naval progress, he pointed to the new battleships provided by New Zealand and the Federated Malay States, and to the £7,000,000 for naval purposes recently voted by the Canadian Government. The medical branch of the army, he said, was now getting on very well—so well, indeed, that when posts were vacant under the Foreign Office or the Colonial Office, it had become usual to apply to the Royal Army Medical Corps for men to fill them. Army medical officers were acting as governors of provinces; they had been lent for administrative posts to the Red Cross in the Balkan States during the present war, and a bacteriologist had even been sent to Turkey, where he had had a very hard job. Of the Balkan Medical Services, the Servian was the best. He had nothing but good to say of the medical service of the Territorial Forces. If the rest of the Territorial Force were in as satisfactory a condition as its medical service there would be little to complain of. He also eulogised the organisation of the St. John Ambulance Association, which had been a revelation at the review in London last year, and was really a most valuable asset. The President, in proposing the toast of "The West London Medico-Chirurgical Society," said the membership was at present well maintained, as they had over 580 members, of whom 33 were original members. The attendance at meetings during the past year averaged 44, and at the Cavendish lectures never less than 100. He prophesied a distinguished gathering for Sir Berkeley Moynihan's lecture next June, and paid a tribute to the society's losses by the deaths of Lord Lister, Sir Henry Butlin, and Mr. Leonard Bidwell. But he expressed his belief that the society would be adversely affected by the Insurance Act. The profession would be split, as it had been in Germany, according to a conversation he had had with a well-known sociological authority, into two classes of practitioners—insurance doctors and independent doctors, the latter few but respected, consulted and looked up to, the former numerous, but having no standing. In Germany the insurance doctor now ranked below the village parson and the village grocer. The Act was already beginning to affect medical education adversely. The entries at the medical schools had enormously diminished, and unless steps were taken to raise the status of the profession the Government would have either to lower the educational standard or to subsidise the students; in either event the result would be an inferior class of men in the profession, who would have no use for such a society as the West London Medico-Chirurgical Society. Dr. S. D. Clippingdale, in replying, gave some reminiscences of the society, and stated that its financial condition was good. Dr. F. S. Palmer proposed the toast of "The Kindred Societies and Guests," and Sir Francis Champneys, President of the Royal Society of Medicine, replied. Mr. W. McAdam Eccles proposed the health of the chairman, who briefly responded. The entertainment, which consisted of Punch and Judy up to date by Mr. Carl

Harmon and some drawing-room magic by Mr. Herbert Collings, whose patter was humorously apt for the occasion, *was very greatly enjoyed.*

THE BRISTOL MEDICAL CHARITIES.—During 1912 the employees of Messrs. J. S. Fry and Sons collected £590 for the Bristol medical charities.

A CORNISH CENTENARIAN.—The Rev. P. Carlyon, of Pennance House, Falmouth, has recently entered upon his 102nd year. The *Guardian* believes that Mr. Carlyon is the oldest clergyman in England.

OCKENDEN (TORQUAY) CONVALESCENT HOME.—During 1912 the patients admitted to this home numbered 204, and the average number of occupied beds was 19·8. At the close of the year a favourable balance of £42 remained.

UNIVERSITY OF BIRMINGHAM.—Mr. Gilbert Barling, surgeon to the Birmingham General Hospital, professor of surgery in the University, and formerly Dean of the Faculty of Medicine, has been elected Vice-Chancellor.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, LONDON.—The secretary informs us that outpatients' days are now Monday, Tuesday, *Thursday*, and Friday. The change is that Thursday has taken the place of Wednesday, and this was made at the beginning of the year, but a number of new cases still go to the hospital (often from country places) on Wednesdays.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next quarterly meeting of this association will, by the courtesy of Dr. Rotherham, be held at the Darenth Industrial Colony, Dartford, Kent, on Thursday, Feb. 20th, under the presidency of Dr. J. G. Soutar. Trains leave Charing Cross at 9.55 A.M., or Cannon-street at 9.42 A.M., for Dartford. The following papers will be read after luncheon: Assistant Medical Officers in Asylums, by Dr. J. Beveridge Spence; and A Brief Account of Darenth and its System of Industrial Training, by Dr. A. O. Spensley. *Members will subsequently dine together* at 6.45 P.M. for 7 o'clock, at the Café Monico, London, when morning dress will be worn.

WEST SUSSEX COUNTY COUNCIL: MEDICAL AND SANITARY DUTIES.—At the West Sussex county council meeting at Chichester on Feb. 7th the resignation of the county medical officer of health, Dr. A. G. R. Cameron, was accepted, to take effect from June 30th next. It was stated at the request of Dr. Cameron that the Insurance Act having come into operation since his appointment, and as he had not, he felt, received the support of the committee in carrying out the schemes he suggested, it would be better for him to resign his office. The council resolved that a conference should be held between the various medical and sanitary authorities as to the effective and economical methods of carrying out the medical and sanitary duties in the county, avoiding any overlapping. The position at present is that the West Sussex county council has a medical officer, two assistants, and two school medical officers under a chief, and a tuberculosis officer must be appointed. The conference is to be called together at an early date.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Insurance Act in Operation.

ON Friday, Feb. 7th, the House of Commons had an opportunity of discussing in Committee of Supply various topics which have arisen in connexion with the administration of the Insurance Act. The debate took place on a vote of £1,825,000 for the expenses of the National Insurance Commission. The larger proportion of this money, as explained in THE LANCET of last week, is required to bring the payments of medical men who have accepted service on the panels up to the amount promised by the Chancellor of the Exchequer last year. Naturally the most interesting speech was that in which Mr. LLOYD GEORGE dealt with points of criticism, as he was speaking as the Minister who was primarily responsible to Parliament for the financial arrangements. But the speeches of Mr. WORTHINGTON EVANS, Dr. ADDISON, Sir PHILIP MAGNUS, and Mr. H. W. FORSTER, who spoke from other standpoints, gave expression to views which will be read with interest by medical men. At times a keen controversial element was introduced into the debate.

A point which concerned Parliamentary financial procedure at first occupied the attention of the House. Some Members protested against the proposal to extend the grant into the next financial year, as this was a departure from the practice to grant Supply only for the current services of the year. Mr. CASSEL urged that the arrangements with medical men were provisional for the first three months of the year. In voting money which would be expended in the new financial year which began in April the House would not retain control over the new arrangements Mr. MASTERMAN, the secretary to the Treasury, insisted that the Act contemplated placing the money for the full medical benefit for a year at the disposal of the Insurance Committees in order that they might make contracts with medical men for a year. The House accepted the view of the Government.

The Free Choice of Doctors.

Mr. WORTHINGTON EVANS, who has taken a leading part amongst the members of the Opposition in regard to the Insurance Act, was the first speaker who criticised the administration of the statute. He contended that the "free choice of doctors" had been interfered with by the authorities responsible for carrying out the Act, and that private arrangements for medical treatment had been denied to insured persons. He took exception to the "threats" to send medical men to districts where the local practitioners declined to form a panel, and impose them on insured persons. Such threats, he said, had poisoned the whole administration of the Act, and had affected the administration of every Insurance Committee. He maintained that if a panel was once formed in a district upon which medical men were serving the Insurance Commissioners could not close it so as to prevent other practitioners joining it

Mr. MASTERMAN intervened to say that if the list was adequate to the needs of the neighbourhood it was acted on. If it was inadequate the Commissioners might declare it inadequate and might bring in any other system which they pleased, including what was called the "closed panel system."

The Agitation in London.

Dr. ADDISON, in the course of a long speech, declared that the whole intent and purpose of the medical agitation in London was to break down the Insurance Act Those concerned in it wanted to persuade the insured persons to make their own arrangements without explaining to them what was the project in which they would be involved. He criticised at length the form supplied by the London Medical [illegible] against them He condemned attempts that had been made to prevent medical men coming on the panel.

Sir PHILIP MAGNUS said that the House should remember that the Member for Hoxton (Dr ADDISON), although he was a medical man, did not speak in the name of the medical profession, which would repudiate much that he had said. He also complained that every possible difficulty had been placed in the way of insured persons making *their own arrangements* for medical treatment, and that medical men had been overworked under the Act.

The Chancellor of [illegible]

[illegible]

and suburbs and amongst industrial populations earning good salaries there was a doctor for 500 or 1000 of the population. In Bradford he thought there was a medical man for every 1200 or 1300 people. But in the East-end there was only one doctor for every 4000 or 5000 of the population. One result of the Insurance Act was that well qualified medical men were beginning to drift to these districts for the first time. It was true that many of them were young men who saw an opening, but why did those men not start in these districts before? It was because they could not make a living unless they adopted a type of practice where they had thousands of patients with a threepenny fee and a bottle of medicine thrown in. Now the well to-do artisan and the man who was only earning 10*s.* or 15*s.* a week were both getting the same payment from the Insurance Fund for their doctor. What was the result? The medical man in future, although [illegible] would find that from the [illegible]

beginning to find that out. The system had only been in operation for three weeks, and an honourable gentleman had complained that things were not in perfect order. No proof had been given by him of that. It depended upon a sort of gassy invective that had appeared in just one or two newspapers, but not in all. Who was responsible? Up to Dec. 21st the doctors did not come in under the Act. On that date, within about a fortnight or three weeks of the Act coming into operation for medical benefits, they [illegible] scheme, but a scheme which they them[illegible]efore, and as to which they demanded [illegible] Commons should make a statutory provision to prevent it ever coming into operation. Why should the

Government be blamed for that? This wild-cat scheme had been projected at the instance of one or two men who had led the profession very badly. He thought that all the doctors of the country admitted that quite freely now. That was the real reason why, if there was the slightest confusion, it existed. It was because the doctors refused up to the last moment to accept the terms offered, and put forward terms which they unanimously had rejected 18 months before, and as to which they wished the Government to provide a statutory bar against their ever coming into operation.

The Question of Over-work.

Now as to the question of over-work. There was no proof of that. The only proof that had been put forward was the mention of a certain doctor who had got thousands of patients who insisted on going to him, and they would insist for some time on going to him. It was impossible to prevent them. The honourable Member for London University gave the case of a doctor who dropped dead in the street and there was an inquest and evidence that it was all due to overwork. The whole number of persons—not patients—on his list was 137. The cards had come in since his death, and therefore the Insurance Commissioners knew the facts. Four or five days before his death they were 96 and at the time of his death they were 137. He learned that in London there were nearly 1200 doctors already on the panels, and the number of insured persons was 1,300,000. That meant there was on an average one medical man to every 1100 insured persons. Did those who said that that was extravagant know that there were industrial districts where one medical man would give attendance to 5000 persons? One doctor attended between 3000 and 4000 persons, men, women, and children, in districts like those in South Wales, Durham, and Northumberland. He did not say that at once they would succeed in establishing a perfect system. That was an unreasonable demand. The Opposition were asking the Government to establish in three weeks a system which must necessarily take years to perfect. The Government could say that they had made, not only a beginning, but an extraordinarily successful beginning—a beginning which honourable Members opposite never dreamed of.

Medical Representation on Insurance Committees.

Whose fault was it that the medical profession were not on the Insurance and Advisory Committees? The Insurance Commissioners had asked the British Medical Association to supply a list of doctors in each district to represent the medical profession on the Advisory Committees and Insurance Committees. They refused. And now complaint was made that they were not on the Advisory Committees, and that some regulations were not ready for the purpose of their election. Whose fault was it that the medical profession did not have a share in framing those regulations? Representatives of the medical profession were put on the Advisory Committees. The representatives of the British Medical Association cleared out and withdrew every other man whom they possibly could. What right had honourable Members to complain that these matters were not settled by doctors when the British Medical Association did everything in its power to withdraw every medical man who was invited there to help in framing the rules?

Private Arrangements of Insured Persons.

Regarding what he had promised about the right of insured persons to make their own arrangements, he stood to every word he had said. He had said that it would be possible in any district if insured persons did not care for the capitation system to pool the whole of their money and to draw upon that amount to the extent as far as it went. He went beyond that and said that the insured person would be liable for the balance. What happened in those cases? By this grant the balance had been wiped out and the Government were now enabling the doctors and societies where the insured persons preferred the pooling arrangement to enter into it on the one condition that this grant was to be paid and not a penny piece was to be charged in respect of the balance against the insured persons. In Manchester the very arrangement which he suggested in the Opera House had been carried out and throughout the whole of the great county of Lancashire. What was the arrangement? The medical men there said, "We do not like the capitation system and we do not like treating people at 8*s.* 6*d.* per head, or whatever it may be, and we prefer that the 8*s.* 6*d.*, or 6*s.* 6*d.*, or 7*s.* should be put in a pool and that each of us should attend on the old system our patients and at the end of a given period we should send in our bills, and that those bills should go as against the pool, and if it is insufficient we shall have a dividend." If it was more than sufficient in some districts, a very good use of it would be made. He was asked why the Insurance Commissioners did not allow insured persons to make their own arrangements? This was never intended save in exceptional cases. He was said to be forcing the panel system on insured persons. The panel system was the choice of the British Medical Association, which refused to have anything to do with the Approved Societies. It was now said that the panel system was an instrument of torture manufactured by the Chancellor of the Exchequer for the tormenting of an innocent profession. It was not his invention.

Mr. WORTHINGTON EVANS: But you are using it?

Mr. LLOYD GEORGE: Who put it in my hands? I am doing it for their own good and they will realise it by and by. They convinced me that the panel system is the best. It took weeks to do it. They convinced me so thoroughly that I do not see my way to change again. The panel system, he continued, meant that any medical man could go on it. That meant a free choice of doctors. No Act of Parliament really could compel a doctor to attend a man or compel him to go on the panel. All he could do was what the medical profession asked him to do, and that was to leave an open door to them without any qualification beyond those which they had won at their examinations and which they retained. To try to make medical men serve against their will would be bondage and slavery. The Government wanted perfect freedom for the medical profession. There was no difficulty anywhere except in London. Here, he was sorry to say, it was not medical but political. When the London County Council elections were over this particular difficulty would vanish. The movement for "your own arrangements" had been organised entirely and exclusively by a certain section of the medical profession who wanted to break down the Act for political purposes. The Insurance Commissioners could not permit this arrangement on the scale which it was demanded in London, because it would break down the Act. One advantage of the panel system was that it guaranteed medical service to every insured person, but if they allowed persons to make their own arrangements to any very large extent the doctors would pick out the best lives and leave the broken-down lives to the panel doctors. That would mean that it would be impossible to form a panel at all. This would be grossly unfair. The panel system secured also effective control. It could be seen that a doctor who was on the panel did render the services which he had contracted with the Insurance Committee to give, and if he did not do that he could be called to account. A good many doctors would like to get away from that, but was Parliament to pay the same money to the doctor who was prepared to carry out the regulations of the State and to subject himself to a State supervision, and a doctor who did as he pleased and only had his own patients to control him?

The Attainments of Panel Practitioners.

It had been stated that there would be no proper medical benefits under the Act on January 14th, or if there was medical attendance it would be a sort of refuge for the medical profession. The British Medical Association said that 8000 medical men at least must join the panels in order to work the Act. Now 15,000 had joined the panels. With regard to the quality of the medical men, practically throughout Great Britain almost all who had been engaged in industrial practice were on the panels to-day. London might be a possible exception. In all the great cities—Glasgow, Liverpool, Manchester, Bradford, Newcastle, Birmingham, and Sheffield—the vast majority of the doctors who had been engaged in industrial practice were now on the list, and it was very remarkable that although they had been working for three or four weeks under difficulties which would naturally come at the beginning, the number of complaints which had been received up to the present were infinitesimal in the whole of those districts. Of course, those who were administering the Act could not guarantee the quality of every doctor. There were good and bad doctors, and there were mediocre ones. That was the case in every profession. Money did not always buy a good doctor. But there were first-class, competent, and skilled men on the panels, and if there were doctors on the lists who were not competent, at any rate they had been chosen by the insured persons. These the insured persons need not select. The right honourable gentleman briefly reverted to the case of the East-End of London. There were many districts there which were under-doctored, and he had no doubt that in the next few months doctors would drift into those areas. They were beginning to do so. There was a great deal of hard work to do, but this was due largely to the fact that in the past the poor people had not been attended at all. Half, if not two-thirds, of the population of this district had never received medical attendance at all except what they had got as out-patients of the hospitals. For the first time they could call in their own doctor. That undoubtedly increased the work of the doctors.

Filling up the Cards.

There was another class of work which he had no doubt increased the burden of the doctors at the beginning: that was the filling up of the medical benefit cards. It did not take very long, it was true, to fill up a card, but if a practitioner had 500 patients on his list it took some time to fill in his name and address, and very often the name and address of the patient as well.

Mr. WORTHINGTON EVANS: And there is the book.

Mr. LLOYD GEORGE: I agree, and the trouble is threefold to people who are not in the habit of doing this sort of thing. But that is a burden which is passing away. They have only to do it once and there is an end of it. In future they will only have to fill these cards in in respect of new patients.

Sir PHILIP MAGNUS: No, every time.

Mr. LLOYD GEORGE: No, the honourable gentleman is perfectly wrong. They have only got to fill the cards and send them in the first time. They had to send the names of those who accepted them as doctors once to the Insurance Committee. Therefore, all this trouble which had taken place in the last fortnight was passing away, and in the course of the next week or two there would be very much less. He should like to say a few words about the keeping of books and papers by the medical profession. He thought that it was possible to simplify some of the documents that had to be filled up, and the Insurance Commissioners were looking into the matter. It was one of those things where experience would teach how to work the Act. He had always admitted that amendments would undoubtedly be necessary, and had said that experience alone would show what amendments were required. This was one of the amendments in the Regulations which he thought would be made. He thought that there would have to be some simplification to some of these documents.

"The Tubercular Sixpence."

He would like to refer to what was called "the tubercular sixpence" which made the doctors' 6*s*. 6*d* up to 7*s*. There had been complaints, notably from Scotland, that the money had not been paid entirely out of this Treasury grant but out of the sanatorium 1*s*. 3*d*. That sanatorium 1*s*. 3*d*. was used for dispensary treatment, domiciliary treatment, and sanatorium or institutional treatment, and the suggestion was that the whole of the domiciliary treatment should be provided out of this sum and not out of the 1*s*. 3*d*. It was true that even up to the present most of the work which had been done in respect of sanatorium benefit had been dispensary and institutional. The only part he was concerned with now was that wherein the doctor was called upon for the sum of 6*d*. to deal with the patient in his own home. This was criticised from two points of view. The doctor said that he was not paid enough, and the Scottish county councils that he was paid too much. The number of insured persons who came up for sanatorium treatment at first was necessarily small, but the number would increase from week to week. In November, for instance, there were about 5000 applicants for sanatorium treatment. Half of these were treated at the dispensaries and by doctors at their own homes, and half in sanatoria. The figures received for this week showed that 5000 had been sent to institutions, and the number was increasing. But it was the doctor's duty also to look after the patient when he returned from the sanatorium to see how he got on. He said that to show that the 6*d*., although a liberal allowance, did cover a good deal of work which on the face of things was not apparent. As time went on more and more people would be sent to sanatoria. It would have been a great mistake to attempt to build sanatoria all over the country in six months. The authorities must proceed tentatively even in regard to the treatment of consumption. Concluding, the Chancellor of the Exchequer said that in Germany the Insurance Act had not been brought into operation for a couple of years after it passed, and there was something to be said for
[illegible] ved, and the experience
of H.M. Government to
[illegible] ssible moment. In spite
of prejudice and an organised appeal to prevent the medical profession rendering service 14,000,000 persons were now insured, and he was glad in spite of every obstacle that the Government had determined to go on.

Medical Service in the Highlands.

Several Scottish Members raised the question of the Medical Service in the Highlands.

Mr. LLOYD GEORGE, in reply, said that the recent report of Sir JOHN DEWAR's Committee on the Medical Service of the Highlands revealed the existence of a very special case. Taking any other part of the United Kingdom it was found that insured persons were 1 in 3 of the population. There they were 1 in 10 or 1 in 12. Where the need was greatest the fund was smallest. There were very appalling stories of what had happened there in districts where there were neither doctors nor nurses, and where poor women were left without trained aid of any kind in very trying circumstances. Humanity demanded that in the case of those who garrisoned those remote parts and who produced such a fine race which had rendered gallant service to the Empire, the least that the authorities could do was to go out of their way to help them in the trying condition of sickness which befell all of them. Honourable Members for the Highlands might rest assured that the £10,000 in the Estimates was put down as an earnest and guarantee that the Government meant to take the matter of the medical service in hand.

The vote was agreed to after a debate of seven hours' duration.

The Select Committee on Patent Medicines.

The Select Committee of the House of Commons, which for some months has been inquiring into the subject of patent medicines, has finished its work for the session. It has not been able to take all the evidence which it thought desirable should be heard, and accordingly a report has been presented to the House of Commons recommending that it should be reappointed next session.

HOUSE OF COMMONS.

WEDNESDAY, FEB. 5TH.

Migratory Insured Persons.

In reply to Mr. G. LOCKER-LAMPSON Mr. MASTERMAN said: If an insured person moves from the area of one insurance committee to that of another, he can, by giving notice to the second committee, obtain medical attendance, and also such certificates as are required to be furnished in connexion with any claim for sickness benefit from a doctor on the panel in the second area.

Surgical Appliances under the Insurance Act.

The Marquis of TULLIBARDINE ask
(1) why, under the National Insura
scheduled; what happened if an insu
who supplied the thigh splints since
articles on the schedule; (2) whethe
cated wool was not mentioned in the
as part of the medical benefits in term
the Second Schedule to the Nationa
were expected to pay for this the
wool was almost an essential in m
under the National Insurance Act, in the case of gauzes and lints, sal. alembroth was scheduled; and, if so, whether regard was had to the fact that owing to the chemical action between the cotton and the alembroth this medication did not last at the outside for more than three months; and (4) whether the usual custom in hospitals and infirmaries was to have white or grey open-wove bandages six yards in length, whether under the National Insurance Act they were required to be only four yards, whether four yards were absolutely useless for binding an arm; whether calico for supporting purposes had always been used six yards in length and was
now order
formerly b
Insurance
reason for
splints pr
to arm s
length as suggested by the noble lord. The gauze and lint referred to were included because some doctors attach importance to their use under certain conditions, but doctors may, of course, use them or not as they please I am advised that the surgical dressings included in the list are adequate for the treatment of the surgical cases which fall within the scope of medical benefit.

The Marquis of TULLIBARDINE: Am I to understand that the splints for fractures can be got and are on the schedule?—Mr. MASTERMAN: As I understand, all splints and apparatus can be got which will be required for these surgical cases, and which fall within the scope of medical benefit.

Dispensers of Medicines and the Insurance Act.

supervision of a medical man.

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ission.—Mr.

clerical work to do that they
people had died because they
or under the National Insur-
proposed to take to alter this
The answer to the first part
second, therefore, does not
arise.

Mr. HUNT: Does the right honourable gentleman deny that people
died because they were unable to get the service of a doctor under

fit.
said. It is proposed to
edical benefit in order to
iest possible date to the
of the amount's

available out of contributions under the National Insurance Act. It is very desirable, regard being had to the provisions of Section 61 of the National Act, and in order that Insurance Committees may be in a position to enter into contracts for the whole year that the whole amount available for medical benefit should be credited to the committees as soon as possible after the commencement of the calendar year as is contemplated by the financial provisions of the Act, and this cannot be done unless the money is issued from the exchequer before the 31st proximo.

Suggested Amendment of National Insurance Act.

Answering Mr. G. Locker-Lampson Mr. Masterman said: If and when experience shows that amendments of any details of the Insurance Act are desirable, legislation embodying such amendments will undoubtedly be introduced. The Commissioners will be glad to receive at any time and from any quarter any suggestions for possible improvement. Criticism up to the present, however, has been singularly barren in constructive suggestions.

THURSDAY, FEB. 6TH.

Sanatorium Benefit in the East End.

Mr. H. Lawson asked the Secretary to the Treasury whether arrangements would be made to prevent consumptive patients in the East End of London from being kept nearly eight weeks before any decision was given as to whether they could obtain sanatorium benefit, seeing that under the present circumstances more harm than good was in many cases done [illegible] nt.—Mr. Masterman replied: I am [illegible] ecision as is suggested by the honour- [illegible] nts have been kept waiting a short [illegible] Patients who remain at home until [illegible] ria, so far from being prevented fro [illegible], are provided with it, medical attendance, medicine, and articles ancillary to their treatment, such as extra food, all being supplied to them at the expense of the insurance funds. I am informed that the Downs School at Carshalton, which is being equipped as a sanatorium for over 300 cases, will commence receiving patients from the London Insurance Committee in a few days' time, and so relieve any waiting list at present existing.

Private Arrangements under the Insurance Act.

In reply to Mr. G. Locker-Lampson Mr. Masterman said: I am not aware of any general refusal of any Insurance Committee to grant permission to insured persons to make their own arrangements when the panel system is working, although I believe some committees have suspended the granting of such permission until they are satisfied that a panel system to provide adequate attendance for all insured persons is assured.

Middlesex Insurance Committee and Panel Contracts.

Answering Mr. Newman Mr. Masterman said: I understand that the Middlesex Insurance Committee recognised that it was impossible to allow doctors who had made contracts for a definite period and had not been released to break these contracts and yet undertake the attendance of insured persons within the same period upon different terms.

Medical Representation on Insurance Committees.

Mr. Newman asked the Secretary to the Treasury whether Regulations would be framed by the Insurance Commission to provide for the election of two representatives of the medical profession on each Insurance Committee; whether he would state why these representatives had not been already elected; and whether, where more than two candidates offer themselves for election, it was proposed that the method of election should be that known as the block vote or that known as the single transferable vote.—Mr. Masterman replied: Regulations have been issued providing for the election of two representatives of the medical profession to each Insurance Committee, and a circular explaining the method of election and enclosing a nomination paper has been sent to every practitioner appearing on the Register. The method of election is that known as the single transferable vote.

Local Medical Committees.

Mr. Hills asked the Secretary to the Treasury whether any Local Medical Committees, as required by the National Insurance Act, had yet been formed in any county, and, if so, how many and by what method such Committees were appointed.—Mr. Masterman answered: Yes; 71 Local Medical Committees have been recognised by the Insurance Commissioners in accordance with Section 62 of the National Insurance Act. The Commissioners require to be satisfied that the Local Medical Committee, before it is recognised, is fully representative of the medical practitioners in the area.

MONDAY, FEB. 10TH.

The Distribution of Insured Persons.

Sir J. D. Rees asked the Secretary to the Treasury to state under what obligation a doctor on a panel lay to accept as a non-paying patient a person who chose him as his or her medical adviser; and what redress had a person who, having chosen a particular doctor, was rejected by such doctor, or perhaps by a succession of doctors chosen by him or her.—Mr. Masterman replied: One of the advantages enjoyed by a doctor who accepts insured persons on his list is that none of them are non-paying patients, and no obligation rests on any doctor on the panel to accept a non-paying patient. The Regulations provide for the distribution among the doctors on the panel of any insured persons who have been refused by the doctor whom they have selected, and so far as is practicable under arrangements made by the doctors on the panel.

The Income Limit in Perth.

Mr. Frederick Whyte asked the Secretary to the Treasury whether he had now received any communications on the subject of the reported decision by the Perth Borough Insurance Committee to fix an income limit for the purposes of medical benefit; whether he was aware that due public intimation of the intention of the Committee was not given to those concerned; and whether he proposed to take any action in the matter.—Mr. Masterman said in reply: I understand that public notice of the proposal to fix an income limit was given by the Insurance Committee by means of advertisement in the public press, and that a public meeting was held on Saturday last at which representatives of Approved Societies as well as medical practitioners discussed the question. The Insurance Committee are further considering the question early in this week.

Medical Referees and the Panel.

Mr. Bird asked the Secretary to the Treasury whether medical referees under the Workmen's Compensation Act were debarred from going on to the panel in accordance with the terms of the memorandum issued to them.—Mr. Masterman replied: The answer to the question is in the negative.

Surgical Dressings under the National Insurance Act.

Mr. Rupert Gwynne asked the Secretary to the Treasury whether there were any regulations or provisions by which medical practitioners under the National Insurance Act could supply surgical dressings and lotions to insured persons in the case of accidents and obtain payment for the same from the Insurance Committees; and, if not, would he [illegible] for such cases.—Mr. Masterman [illegible] the [illegible] being [illegible] circumstances stated.

TUESDAY, FEB. 11TH.

Ireland and Medical Benefit.

In reply to Mr. Fred Hall (Dulwich), Mr. Masterman said: If medical benefit were provided in Ireland upon the same terms as in Great Britain, and if the contributions were adjusted accordingly, the additional cost to the Exchequer over and above the present provision on the basis of those actually insured would be approximately £40,000. The general extension of medical benefit to Ireland could not be effected without legislation.

Sickness Certificates in Ireland

Mr. Masterman informed Mr. O'Donnell that it was stated by the Irish Insurance Commissioners that a certain amount of difficulty had arisen in Ireland in connexion with sickness certificates. A sum of £50,000 was being taken in the supplementary estimates which would be to a large extent available for defraying the reasonable cost of such certificates. Societies could adopt alternative methods of obtaining evidence of illness if excessive fees were charged for medical certificates, and the Irish Commissioners had issued to all societies and branches in Ireland a circular pointing out that the societies, if they thought fit, might obtain evidence of illness by the adoption of a system of lay visitors, by the inspection of medical relief registers, or by the acceptance of a written statement from a clergyman, magistrate, or other responsible person who could testify to the claimant's incapacity for work.

Insurance Committees and Free Choice of Doctor.

Mr. Godfrey Locker-Lampson asked the Secretary to the Treasury whether the Insurance Committees in the county of Middlesex, the Isle of Ely, and Sheffield had refused free choice of doctor outside the panels unless exceptional circumstances were proved, and whether any definition of exceptional circumstances had been laid down by them.—Mr. Masterman replied: I am not aware that the three Insurance Committees mentioned have acted differently from other Committees. The Act only contemplates permission being given to an insured person to make his own arrangements in exceptional circumstances. It is for the Committee to decide upon each application whether the circumstances of the case are, or are not, exceptional.

Unqualified Practice under the National Insurance Act.

Sir J. D. Rees asked the Secretary to the Treasury whether an insured person was entitled to the provision of the services of a herbalist instead of a doctor when desired; and what benefits would be provided for Christian Scientists under the National Insurance Act.—Mr. Masterman said in reply: Duly qualified medical practitioners alone have the right to be included in a panel list. It is, however, open to the persons who belong to an unorthodox school of medicine to apply to their Insurance Committee for permission to make their own arrangements for medical treatment, and if such permission is given the committee will make a contribution towards the cost of treatment.

Operations on Insured Persons.

Mr. Fred Hall (Dulwich) asked the Secretary to the Treasury whether Regulations had been made as to the arrangements to be followed for the performance of operations on insured persons who could not be dealt with at hospitals; and whether these would in all cases have to be dealt with at the patient's own home.—Mr. Masterman answered: No such Regulations have been made; whether an operation should be performed at a patient's home, or at the doctor's surgery, or at a hospital must depend upon the circumstances of each particular case.

The New Vivisection Regulations.

Mr. Fred Hall (Dulwich) asked the Secretary of State for the Home Department to state how it was proposed to appoint the inspectors to carry out the new regulations with regard to vivisection; the salaries to be attached thereto; and whether the positions would be filled by open competition.—Mr. McKenna furnished the following reply: I propose to select from among all candidates who may apply those who appear to me best qualified to discharge the duties of the post. If by open competition the honourable member [illegible] appointment. The appointments will be made for a year in the first instance, and the salary will be £500. If th[illegible] continued the salary will rise by £20 a year to a [illegible] persons appointed will be required to give thei[illegible]

WEDNESDAY, FEB. 12TH.

Limited Panel Contracts.

Sir Philip Magnus asked the Secretary to the Treasury whether, in the case of a doctor having joined a list or panel on the understanding that he contracted to attend only a limited number of insured persons, he might be required later on, as a condition of his remaining on the list or panel, to attend such additional number of insured persons as might be allotted to him as his share of the residue of persons to whom no doctor had been previously assigned.—Mr. Masterman [illegible] doctor attending only a limited number of patients there is no reason why it should be made a condition of his remaining on the panel that he should attend an additional number of insured persons, so long as the arrangements are in force.

Speaking on the Appropriation Bill, Mr. MASTERMAN said that the Insurance Commissioners saw no objection, now that adequate medical attendance was assured to insured persons, to permitting Insurance Committees to make arrangements with the doctors already on the panels for the admission to the panels of doctors who should treat only such persons as desired to continue to be treated by them.

BOOKS, ETC, RECEIVED.

ALLEN, GEORGE, AND COMPANY, LIMITED, London

Walt Whitman's Anomaly By W C. Rivers (The sale of this book is restricted to Members of the Legal and Medical professions.) Price 2s 6*d* net

AMERICAN CLIMATOLOGICAL ASSOCIATION (Secretary · Dr. Guy Hinsdale, Hot Springs, Virginia, U S A)

Transactions of the American Climatological Association for the Year 1912 Volume XXVIII Price not stated

ARROWSMITH, J W., LIMITED, Bristol CHURCHILL, J. AND A., London

Robert Fletcher, 1823-1912 By Sir William Osler, Bart, M D, F R S Diseases bearing the Names of Saints By Robert Fletcher, M D (The Bristol Medico Chirurgical Journal Reprint) Price not stated

BRYCE, WILLIAM, 54 AND 54A, Lothian street, Edinburgh

Students' Manual of Medical Jurisprudence and Public Health By G Haxton Giffen F R C S I, D P H Camb, and James Dundas, M D, D P H, D T M Medical Officer of Health, Ramsgate Third edition Price 5s net

CHURCHILL, J AND A, London

The Plant Alkaloids By Thomas Anderson Henry, D Sc Lond, F C S, Superintendent of Laboratories, Scientific and Technical Department, Imperial Institute Price 18*s* net.

GALE AND POLDEN, LIMITED, 2, Amen Corner, Paternoster-row, London, E C, and Wellington Works Aldershot.

Field Sanitation for Territorial Officers By Lieut -Colonel C Averill, V D, M D, D P H, Royal Army Medical Corps (T F) Price 1*s* net.

HIRSCHWALD, AUGUST, Berlin

Das Zweikindersystem im Anmarsch und der Feldzug dagegen Von Dr Julius Wolf, ord Professor an der Universitat Breslau, Geheimer Regierungsrat Price M 1

HODDER AND STOUGHTON, London For the UNIVERSITY OF LONDON PRESS, LIMITED, London

University of London The Historical Record (1836-1912) Being a Supplement to the Calendar Completed to September, 1912 First Issue Price 5*s* net (Postage 4*d*)

KIMP[illegible]

A[illegible]

LETCHWORTH PRINTERS, LIMITED, THE, Garden City, Letchworth Herts.

Year Book of the Indian Guild of Science and Technology. 1912. *Price not stated*

LEWIS, H K, London

The Bradsha[illegible] the Royal [illegible] 1912 By [illegible] Published [illegible] Surgeons of England Price 2*s* net

LIPPINCOTT (J B) COMPANY, London and Philadelphia

International Clinics Edited by Henry W. Cattell, A M, M D, Philadelphia, U S A, with Collaboration Twenty second series, 1912 Price 35*s* net for 4 quarterly volumes

LOUIS MARCUS VERLAGSBUCHHANDLUNG, Tempelhofer Ufer, 7, Berlin, S W 61

Handbuch der Gesamten Sexualwissenschaft in Einzeldarstellungen Band I Die Prostitution Erster Band Von Dr med Iwan Bloch, Specialarzt fur Sexualleiden in Berlin Charlottenburg Mit einem Namen, Lander, Orts und Sachregister Erstes bis zehntes Tausend. Price, broschiert, M 10

MASSON ET CIE, Paris

Traité de l'Examen des Crachats Étude Histo Chimique, Cytologique, Bacteriologique et Chimique Par Fernand Bezançon, [illegible]

NISBET, JAMES AND CO, LIMITED, 22 Berners street, London, W

The Surgery of the Stomach A Handbook of Diagnosis and Treatment By Herbert J Paterson, M A, M C, M B Cantab, F R C S Lond Price 12*s* 6*d* net

REBMAN, LIMITED, London

[illegible] Lectures By [illegible] t Greifswald [illegible] ember of the [illegible] II. Price 10*s* 6*d* net

Lateral Curvature of the Spine and Round Shoulders By Robert W Lovett, M D, Boston, Assistant Professor of Orthopedic Surgery, Harvard Medical School. Second edition, revised and enlarged Price 7*s*. 6*d* net

Appointments.

ALLISON, J., M D Edin, has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Kettering District of the county of Northampton

ADAMSON, OSWALD J. W, L R C P Lond, M R C S, has been appointed Junior School Doctor under the Education Committee of the County Borough of Brighton

ASKEY, S G, M R C S, L R C P Lond, has been appointed Casualty [illegible] Hospital

[illegible] has [illegible] at St. [illegible] Clinical [illegible] Certi- [illegible] the [illegible] Clinical [illegible] Thomas's Hospital

[illegible] been appointed Certifying Surgeon [illegible] Acts for the Sandhead District of [illegible]

EVANS, A I, M B Lond, has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Llandyssil District

FOL[illegible] L R C P. Lond, has been [illegible] Thomas's Hospital

HA[illegible] C S, L R C P Lond, has [illegible] Physician at St Thomas's Hospital

HAR[illegible] L R C P Lond, has been [illegible] Thomas's Hospital

HU[illegible] L R C P Lond, has [illegible] Anæsthetist at St. Thomas's Hospital

KIMBER, W J T, M R C S, L R C P. Lond, has been appointed Clinical Assistant to the Ear Department and to the Children's [illegible] Thomas's Hospital

[illegible] R.C P. Lond, has been appointed [illegible] Thomas's Hospital.

[illegible] M R C S, L R C P. Lond, has been appointed *Junior Obstetric House Physician at St. Thomas's Hospital*

MITCHINER, P. H., M B, B S Lond, M R C S, L R C P. Lond., has [illegible]

[illegible] Hospital

RUSSELL, W A, M B, B C Cantab, M R C S, L R C P Lond, has been appointed Casualty Officer and Resident Anæsthetist at St. [illegible]

[illegible] been appointed [illegible]

[illegible] been appointed [illegible] Department at St Thomas's Hospital

[illegible] Thomas's Hospital

WILLIAMSON, [illegible] has been appointed [illegible]

WIN[illegible] has been [illegible] Depart[illegible] Hospital

WORDLEY, L, M R C S, L R C P Lond, has been appointed Casualty [illegible] St. Thomas's Hospital.

[illegible] Library

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LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

Tuesday.—4.30 p.m., Demonstration of Pathological Specimens. Cases sent for Consultation. Exhibition of Clinical Cases by Dr. Sibley, Dr. Bunch, Dr. Dockrell, and Dr. Griffith. 5.15 p.m., Discussion on the Sociological Aspect of Syphilis (opened by Dr. P. White, of Wigan).

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

Tuesday.—8.30 p.m., Medico-Legal Specimens will be shown.

ROYAL METEOROLOGICAL SOCIETY, Surveyors' Institution, 12, Great George street, Westminster, S.W.

Wednesday.—7.30 p.m., Papers:—Mr. W. H. Robinson: Periodical Variations of the Velocity of the Wind at Oxford.—Mr. J. S. Dines: Rate of Ascent of Pilot Balloons.—Mr. W. L. Balls: Meteorological Conditions in a Field Crop.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

Wednesday.—8 p.m., Mr. E. Marriage: The Adulteration of Jam.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, Lecture Theatre of the Society, 17, Bloomsbury-square, W.C.

Wednesday.—8 p.m., Prof. R. T. Hewlett: Microbiology and Pathological Chemistry and Microscopy in Relation to the Diagnosis of Disease (Lecture II.). (Post-Graduate Lecture.)

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

Wednesday.—8 p.m., Mr. E. J. Spitta: Report upon the Lenses of the late Joseph Jackson Lister.

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School' St. George's Hospital, S.W.

Tuesday.—8.30 p.m., Papers:—Dr. V. B. Orr: The Work of a [illegible] ly: The Use of Tuberculin [illegible] ussion will follow in which [illegible] Dr. F. N. Griffiths, Dr. C. [illegible]

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

Monday, Wednesday, and Friday.—5 p.m., Prof. A. Keith: The Upright Posture, its Evolution and Diseases. (Hunterian Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

Monday.—4 p.m., Mr. Willmott Evans: Clinique (Skin). 5.15 p.m., Lecture:—Sir W. J. Collins: An Efficient Ambulance Service for Accidents and other Casualties in London Streets and Other Places.

Tuesday.—4 p.m., Dr. J. Collier: Clinique (Medical). 5.15 p.m., Lecture:—Dr. E. B. Smith: Asthma in Children.

Wednesday.—4 p.m., Mr. R. Howard: Clinique (Surgical). 5.15 p.m., Lecture:—Dr. D. Sommerville: Gastro-intestinal Medicine.

Thursday.—4 p.m., Dr. S. A. K. Wilson: Clinique (Medical). 5.15 p.m., Lecture:—Dr. D. W. Carmalt-Jones: Gait in Nervous Disease.

Friday.—4 p.m., Mr. H. Eason: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

Monday.—10 a.m., Dr. Simson: Diseases of Women. 10.30 a.m., [illegible] ation of Cases in Wards. 12 noon, [illegible] emonstration. 2 p.m., Medical and [illegible] Operations. Mr. Dunn: Diseases [illegible] ure:—Mr. Addison: Abdominal Injuries.

Tuesday.—10 a.m., Dr. Robinson: Gynæcological Operations. 10.30 a.m., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 p.m., Diseases of the Skin. 5 p.m., Lecture:—Dr. R. Jones: Types of Insanity.

Wednesday.—10 a.m., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 a.m., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 p.m., Lecture:—Dr. Beddard: Practical Medicine.

Thursday.—10.30 a.m., Dr. Simson: [illegible] 12.15 p.m., Lecture:—Dr. G. [illegible] 2 p.m., Medical and Surgical [illegible] tions. Mr. Dunn: Diseases of the Eye. 5 p.m., Lecture:—Mr. Baldwin: Practical Surgery.

Friday.—10 a.m., Dr. Robinson: Gynæcological Operations. 10.30 a.m., Lecture:—Dr. Owen: Practical Medicine. 12.15 p.m., Lecture:—Dr. Bernstein: Clinical Pathology. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 p.m., Diseases of the Skin. 5 p.m., Lecture:—Mr. R. Lloyd: Administration of Anæsthetics.

Saturday.—10 a.m., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 10.30 a.m., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 p.m., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought *Hospital, Greenwich.*

Monday.—Out-patient Demonstrations:—10 a.m. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 p.m., Mr. W. Turner: Surgery 3 p.m., Mr. W. Turner: Operations. 3.15 p.m., Sir Dyce Duckworth: Medicine. 4.15 p.m., Mr. R. Lake: Ear and Throat.

Tuesday.—Out-patient Demonstrations:—10 a.m., Dr. G. Holmes: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 p.m., Mr. L. McGavin: Operations. 2.15 p.m., Mr. R. Carling: Surgery. 3.15 p.m., Dr. G. Rankin: Medicine.

Wednesday.—Out-patient Demonstrations: 10 a.m., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 a.m., Mr. R. E. Bickerton: Eye.——2 p.m., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 p.m., Dr. F. Taylor: Medicine. 3.15 p.m., Mr. Cargill: Eye Clinique. 4.30 p.m., Mr. C. C. Choyce: Surgery.

Thursday.—Out-patient Demonstrations:—10 a.m., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 p.m., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 p.m., Dr. R. Wells: Medicine.

Friday.—Out-patient [illegible] a.m., Dr. G. Holmes: Medical. Mr. A. J. W[illegible]: [illegible]. 12 noon, Dr. H. MacCormac: Skin.—[illegible] Mr. [illegible] McGavin: Operations. 2.15 p.m., Sir John Rose Bradford; Medicine. 3.15 p.m., Mr. L. McGavin: Surgery.

Saturday.—Out- [illegible] Medical. Mr [illegible] Eye.——10 a.[illegible]

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

Monday.—Clinics:—10.30 a.m., Surgical Out-patient (Mr. E. Gillespie). 2.30 p.m., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 p.m., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

Tuesday.—Clinic; 2.30 p.m., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 p.m., Medical In-patient (Dr. A. J. Whiting).

Wednesday.—Clinics:—2 p.m., Throat Operations (Mr. Gillies). 2.30 p.m., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 p.m., X Rays (Mr. W. Steuart); Clinical Patho[illegible] stration (Dr. W. H. Duncan). 5.[illegible] p.m., Eye O[illegible] Brooks). 4.30 p.m., Special D[illegible] Dr. T. R. Whipham: Selected Cases of Children's Disease.

Thursday.—2.30 p.m., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 p.m., Medical In-patient (Dr. G. P. Chappel). 4.30 p.m., Lecture:—Mr. E. Gillespie: The Diagnosis and Treatment of Scoliosis.

Friday.—2.30 p.m., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld): Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 p.m., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

Wednesday.—4.30 p.m., Dr. Fenton: Demonstration of Cases.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.

Course of Lecture-Demonstrations on Diseases of the Chest, with Special Reference to Tuberculosis (including a Tuberculin Course):—

Monday.—4.30 p.m., Mr. A. Evans.
Thursday.—4.30 p.m., Dr. J. H. Drysdale.
Friday.—4.30 p.m., Dr. B. King.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

Tuesday.—3.30 p.m., Clinical Lecture:—Dr. J. Collier: Syphilis of the Nervous System, Cerebral Lesions.

Friday.—3.30 p.m., Clinical Lecture:—Dr. J. Collier: Syphilis of the Nervous System, Spinal Cord Lesions.

CANCER HOSPITAL, Museum of the Hospital, Fulham-road, S.W.

Wednesday.—5 p.m., Dr. T. J. Horder: The Diagnosis of Cancer of the Stomach (illustrated by cases and microscopic and other specimens).

ROYAL EYE HOSPITAL (London School of Ophthalmic Surgery and Medicine), St. George's-circus, Southwark, S.E.

Tuesday.—4.30 p.m., Lecture:—Mr. Lyle: Inflammations of the Uveal Tract.

LISTER INSTITUTE OF PREVENTIVE MEDICINE, Chelsea Bridge-road, S.W.

Tuesday.—5 p.m., Dr. J. A. Arkwright: Some Recent Work on [illegible] f Bacteria with Special Reference to Agglu- [illegible] J. H. Smith: Recent Work on *Hæmolysis.*

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

Tuesday.—2 p.m., Dr. W. Griffith: The Pathology of the Skin. 6 p.m., Mr. W. Hampson: X Rays. Other Skin Affections.

Thursday.—6 p.m., Dr. M. Dockrell: Seborrhœa and Psoriasis dealt with as Stages of the same Dermatitis in Symptoms, Diagnosis, and Treatment.

UNIVERSITY OF LONDON (King's College), Physiological Laboratory, King's College, London, W.C.

Monday.—4.30 p.m., Dr. O. Rosenheim: Recent Advances in Chemical Physiology and Pathology.

UNIVERSITY OF LONDON (University College), The Francis Galton Laboratory for National Eugenics.

Tuesday.—8 p.m., Prof. K. Pearson: Heredity of Piebaldism and of Albinism in Man.

ROYAL SANITARY INSTITUTE, 90, Buckingham Palace-road, S.W.

Friday.—8.15 p.m., Mr. H. P. Boulnois: Hygiene of the Home (illustrated by lantern slides). (Chadwick Trust Lecture.)

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON) London Hospital Mile End road E

Course of Lectures and Demonstration on Neurology (illustrated with Clinical Cases) —

MONDAY —4 30 P M Dr T Thompson Signs and Symptoms of Injury

TUESDAY – cases

WEDNESDA

FRIDAY —

ANCOATS HOSPITAL Manchester

THURSDAY —4 15 P M Mr W R Douglas Enlargements of the Thyroid Gland including Exophthalmic Goitre (Post Graduate Clinic)

MANCHESTER ROYAL INFIRMARY

TUESDAY —4 30 P M, Dr Reynolds Some Varieties and Causes of Ataxia (Post Graduate Clinic)

FRIDAY —4 30 P M Mr Roberts Tuberculosis of Bone (Post-Graduate Clinic)

BIRMINGHAM GENERAL HOSPITAL

TUESDAY —3 30 P M Dr Parsons Pyloric Stenosis in Infants (Post Graduate Clinic)

QUEEN'S HOSPITAL Birmingham

FRIDAY —3 30 P M Mr Morrison Demonstration of Surgical Cases (Post Graduate Clinic)

For further particulars of the above Lectures, &c , see Advertisement Pages

A DIARY OF CONGRESSES

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses It is unnecessary to issue the lists of all these functions week by week and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement The following Congresses Conferences and Exhibitions are announced :—

March 1st (University of London) —Eugenics Education Conference

„ 1th 20th (Paris) —International Congress of Physical Education

(Easter week) (Berlin) —Fourth International Congress for Physiotherapy

of the German Association

Congress of the German Surgical Association

April 3rd 9th (London) —International Congress of Historical Studies

„ 6th-12th —Health Week

„ g Conference

„

May 14th-18th (Paris) —Twenty first Annual Congress of the Royal Institute of Public Health

July 7th 12th (Exeter) —Twenty-eighth Congress of the Royal Sanitary Institute

„ 16th 18th (Oxford Keble College) —Oxford Ophthalmological Congress

Aug 4th and 5th (London Caxton Hall) —English speaking Conference on Infant Mortality

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THE INDEX TO THE LANCET

THE Index and Title page to Vol II of 1912 were given in THE LANCET of Dec 28th, 1912

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THE LANCET Office Feb 12th 1913

Date	Barometer reduced to Sea Level and 32° F	Direction of Wind	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Remarks
Feb 6	29 97	S W		65	53	43	45	46	Overcast
„ 7	30 04	S W	0 02	56	54	46	47	48	Overcast
„ 8	30 25	W	0 11	77	50	43	40	43	Fine
„ 9	30 39	S W	0 02	55	52	43	45	47	Raining
„ 10	30 43	S W	0 15	63	53	43	45	46	Cloudy
„ 11	30 55	S W		61	54	42	41	42	Foggy
„ 12	30 67	SSE		51	47	38	40	40	Foggy

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Æsculape Chill Annales de Journal of Physio-
logy Parasitology Biochemic
Psychiatry Annales de Gynecc
Record Archives de Médecine
de los Hospitales Dominion Medical Monthly Journal of Laryngology Rhinology and Otology American Journal of Medical Sciences Ash's Monthly Bulletin et Mémoires de la Société de Radiologie Médicale de Paris Revue de Gynécologie et de Chirurgie Abdominale

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The Hunterian Oration

Delivered before the Royal College of Surgeons of England on Feb 14th, 1913,

BY SIR RICKMAN J GODLEE, BART, M S. LOND., F R C.S ENG, HON. M D. DUB,

PRESIDENT OF THE COLLEGE, ETC

GENTLEMEN,—The picture which on these occasions hangs over the head of the orator was, as is well known, painted under peculiar circumstances John Hunter was urged to sit to Reynolds by his friends, and principally by Sharp the engraver, who, with strange prescience, foresaw that his engraving of the portrait would prove to be his *chef d œuvre* But Hunter objected, he thought *it almost as great a* waste of time as he did only four years later, "when he fairly wished Sir Joshua and his friends at the devil when called on to take part in the funeral of this eminent artist and delightful author" Besides, he would not allow them to pay for it, and he had always more than enough use for his own money At last, however, when he was 60 years old, he yielded *It is easy to imagine him*—and with much sympathy—fuming and fidgeting in that great armchair, with the description of his specimens (on which he set great value, but which was burnt after his death by Sir Everard Home) at his side Time after time the master tried to catch his likeness, but without success, and he was almost giving up in despair, when suddenly on Hunter s face came this rapt expression, as, with his mind fixed on other things he ceased to be worried with his surroundings Quick as thought the canvas was turned upside down, and between the original legs appeared this face which even in the present cracked and faded condition of the picture has been the admiration of succeeding generations We have been blamed for having allowed it to become so ruined, but possibly the way in which it was painted may partly account for the disaster

Look at the picture! I have gazed at it, *in season and* out of season, for half a lifetime trying to guess what was the thought that calmed and possessed his restless mind And now, at last, I seem to know For one thought occurs again and again in all his writings, and speaks to day from his museum to him who grasps the idea of its arrangement *What is Life?* That mystery which baffled the intellect of the ancients and which still, *pace* Professor Schafer, is awaiting solution What is Life? And then I recall his strange formula, which haunts the memory like a sort of wild refrain, "*Body, Blood, and Motion!*" When the motion *of the blood stops the blood dies*, and then the body dies, some parts of it sooner, some later, but it dies, although there is no difference in its constitution perceptible to the senses Truly as he observes, "mere composition of matter does not give life, for the dead body has all the composition it ever had *Life is a property we do not understand, we can only see the necessary leading steps towards it*

We all admire the picture But what would we not give *to see for a moment the failures which still* exist under the paint at the lower part of it? That would be a likeness of the real man such as we can only gather from hearsay

LONDON IN THE TIME OF HUNTER

If he were to slip out of his frame into our midst it would give us a shock to see, instead of that inspired philosopher, a sturdy, thick set man in a brown, eighteenth century full-skirted coat and breeches, a bull neck an underhung jaw, thin white hair that had once been red, and such an eager manner and such a sparkling eye! He could not have stepped into this theatre for the place where our College stands was occupied by residences, except one part in the rear where there was an old theatre giving on Portugal street But I can imagine him crossing the open treeless square, with a pond in the middle and making his way by Queen street and Long Acre or the Strand to his house in *Leicester Fields* He would hardly have ventured on a cross cut through St Giles's, for even in *my* young days it was a questionable district for respectable pedestrians I think of the people he might have met Dr Johnson, blinking as he groped his way towards the Cock Tavern in Fleet-street, Fanny Burney, the novelist, bowing from her sedan chair to Edmund Burke or Wyndham, "Sir Roger in his coach and four, Mrs Siddons or Garrick stepping towards Drury-lane; the refined Percival Pott, his greatest rival, or Warren Hastings with his anxious face *And one might wonder that he is scarcely mentioned in the* writings of Mrs Montagu or Madame Piozzi, and that he does not seem to have mixed much with the distinguished intellectual circle whose names are still to us household words, if one did not think of the enormous amount of work which Hunter crowded into the 45 years after he left Scotland at the age of 20, with no great reputation *for* diligence or application I see the strange dress of the common people, and hear the noisy rumble of the huge waggons, and the "cries of London"—that little London of 500,000 or 600,000 *inhabitants, which in 1740 did not extend* beyond Old street, Queen square, and Portman square on the North, "Tyburn Tree" and Westminster on the West, Mile-End on the East, and was connected by *two bridges only with the small borough of Southwark*, enclosed by the upward loop of the river It was like a great isolated country town, and from this square ten minutes' walk led to green fields and farms and streams and primroses and foot-pads At Leicester-square his great yellow coach, which had crossed the drawbridge at the back of his house leading into Castle street, would be waiting for him, and his coachman would *drive off* with his *two bay stallions to his country* house at Earl's court If Leicester square was at all in the state I first remember it, it must have been a waste indeed *He would go down* Coventry-street, looking much as it does now (though Regent street did not exist), and along Piccadilly, then occupied only by the mansions of the great Passing St George's Hospital he would turn to the left down Bell lane now the Brompton road, through fields with hedges and trees, till he reached his destination at Earl's Court, two miles from London

Pictures of the house show it as a plain stuccoed villa, evidently built in stages, standing in grounds of moderate dimensions It looks uninteresting, but we know that there were caves and dens of the earth, in which wild *beasts were* kept and from which they sometimes escaped, and coppers in which the skeleton of a giant could, if need arose, be *quickly freed of its flesh* Other strange animals roamed about the park, and a stuffed crocodile hung, like a presiding saint, over the front door Within were carried out all sorts of investigations, for it was to Earl's court that he retired whenever he was able—*too* far from London for casual interrupters but not far enough to miss calls *of great importance* or urgent necessity There no doubt many of the preparations were made, if not mounted, which found their way *into the Museum at Leicester* square

HUNTER'S MUSEUM

There is an engraving of No 28 at the south east corner of Leicester square, and we can picture the *front* parlour and the study, and afternoon bedroom, and *the print room* and the sedan chair standing in the hall He bought the lease of this house and of one at the back in Castle street, and *between them he erected a building at a cost of over £3000* On the ground floor were the great parlour for weekly meetings of his medical friends and a theatre for his lectures Above it was the Museum lighted from the top, 52 ft long and 28 ft wide, with a gallery all *round* The house in Castle street was used for the different *branches of human* and comparative anatomy, for his printing press and publishing departments, and contained a sitting room for his *students*

Let us try to think what this Museum was like and why it was formed, for it seems strange for a busy surgeon to devote a large part of his house and a very large part of his life and nearly all his *fortune to the formation of an* enormous anatomical museum One could not *imagine such a collection* now in Harley street or Cavendish square

In the first place, it must be borne in mind that Hunter *was a man of phenomenal industry*, whose mind was interested in everything to do with nature, to him the pursuit of natural history amounted to a passion—a passion that many of us can sympathise with, "for Nature never did betray the heart that loved her" *But it must* also be remembered that he possessed in an almost exaggerated degree *the mania for* collecting, which is also a vice not quite unknown amongst my audience, who sit on Chippendale or Empire chairs, *speculating on the works of the Old Masters* Another vice he had which is shared by too many of our profession He only thought of money as a means for gratifying his ruling passion, and so he crowded his house with works of arts, and his museum, not only with specimens which illustrated his novel views of physiology, but with others interesting only from their rarity or beauty. He thought no more of spending £500 for the skeleton of the Irish giant, or buying a picture by Zuccarelli, or Hogarth's prints, than is now thought of paying a thumping sum for a sixteenth century bronze; and though he took the keenest interest in his patients' diseases, he looked at the "damned guinea" only as the means for enriching his collection; and so it is no wonder that he left little to his heirs besides this incomparable Museum.

But it must not be thought that this was a mere omnium gatherum of everything that came in his way—very far from that. It only needs to examine the specimens now in the Museum, all religiously distinguished by their two black figures, to appreciate that either he never put up anything except the best—which is not likely—or that, like a true collector, he eliminated all except the best; for they are nearly all of superlative excellence, and illustrate in a striking way the particular object for which they have been preserved—that is, the physiological or pathological process, not the mere isolated anatomical fact.

It is almost inconceivable when looking through Hunter's posthumous papers that out of this apparent chaos such a definite plan could emerge as the groundwork of the Museum. One is lost amongst such subjects as the sociability of man and animals, the rising of animals, air in the bowels, the mind, fossils, or parts whose uses are not known. No one can attempt to summarise such a vast variety of material, b catalogues, which from Owen's which the would be re, though in to what follows or rship of some ee had be dread- a man endowed admire without ence, absolute exactitude, limited patience, and at the orseless critic of the absence of ever, after invoking the support of our conserv o curators, who would admirably defend me, I should invite him to walk through our Museum. But first I should tell him that his collection waited in its original abode till 1800, when it was taken over by the College, and that during that time it was carefully watched over, kept clean, and dusted by his trusty assistant Clift.

ster.

C.—Miss Campbell, Lond.; Cornwall Works Dispensary, Smethwick, Secretary of; Coventry and Warwickshire Hospital, Secretary of; Coal-Smoke Abatement Society, Lond., Secretary of; Mr. V. Zachary Cope, Lond.; Messrs. T. Colman and Co., Lond.; The S. A. Crocker Co., Cincinnati, U.S.A.; Cornwall County Council, Bodmin, Secretary of; Mr. A. L. Clarke, Lond.; Dr. J. G. Colliston, New York; Chelsea Clinical Society, Lond., Hon. Secretaries of; C. P.; Dr. J. F. Corson, Tumu; Messrs. Clayton, Lond.; Chesterfield and North Derbyshire Hospital, Secretary of.

D.—Dr. Robert L. Dickinson, New York; Messrs. G. T. De Fraine and Co., Aylesbury; Messrs. W. Dawson and Sons, Lond.; Sir Dyce Duckworth, Bart. Lond.

E.—M W. Edridge-Gr my Supply Age ton N

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Mr. W. Metca
G. D. McRae,
Psychological
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Dr. Basil Mart
Dr. Donald J.
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New York; Staff-S
Murphy, R.N., Osb
Wight; Messrs.
Crowther, Lond.; Dr.
millan, Stevenston; Misc
Legal Society, Lond.; Prof
Edward Malins, Birming
Maltine Manufacturing
Lond.; Staff-Surgeon G
leod, R.N., Devon
Macmillan an
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THE CONSERVATORS OF THE MUSEUM.

Clift, it may be observed, was born in great poverty and was sent up from Devonshire by Hunter's sister, and was engaged by him on Feb. 14th, 1792, a year and a half before his death, without fee, to write and make drawings and dissect and take part in the charge of the museum. Poor faithful Clift! He got 7s. a week for seven years from Matthew Baillie and Home, and kept patiently dusting and cataloguing. At last, when the Government gave £15,000 for the collection, and subsequently £12,500 in addition, and the College gave £21,000 for the building of the first museum, he was made the first conservator. He held this post till 1842, when he retired on account of ill-health, with a pension of £400 a year.

And here I should slip in the piece of information that the College has spent no £500,000 upon its construc- ti tenan time.

ing al other museums, such iz per, Heavyside, Brookes, ff in, and other famous to it himself, ly master— I had almost said he was an abject worshipper—and with the assistance of his son he got it into order for display and development by the more distinguished men who followed him.

The first of these was Richard Owen, a man of a different type, whose very aspect suggested cerebral hypertrophy. He was appointed assistant conservator in 1827, and full conservator in 1842. So he worked long with Clift, married his daughter, and was thoroughly imbued with his father-in-law's hero-worship. He became a comparative anatomist and palæontologist, and added many of those weird forms which now occupy the floor, glyptodons and megatheriums, and the giant elk, and fossils by the gross. But his great work was the publication of the memorable descriptive and illustrated catalogue of the physiological series of comparative anatomy, to which department he made important additions. Owen's was a stressful reign; for he could ill brook control, and the Museum committees were frequent and stormy. And so, great man though he was, he left without a vote of thanks or regret, to take charge of the Natural History Department of the British Museum in Bloomsbury in 1856.

Then came Quekett, of the Quekett Club fame, who had been student dissector at the College and assistant curator since 1842. He was essentially a microscopist, one might say a born microscopist, for his father was one before him, and at the age of 16 he gave lectures on microscopical subjects, illustrated by a microscope he had made for himself out of a roasting jack, a parasol, and a few pieces of iron he had purchased at a neighbouring marine store. He added little to the Museum except a valuable microscopical collection, but he drew up a catalogue of the fossil organic remains of plants. He was, as his portrait indicates, a jovial man. He retired on account of ill-health, and when he died at Pangbourne in 1861 he left a penniless and, alas, unpensioned widow.

And he was followed by Flower, a strong organiser and a born manager of men, whose graceful figure and handsome face many of us can remember. Under his peaceful rule dissensions ceased. He was, to begin with, assistant surgeon at the Middlesex Hospital, and served as surgeon in the Crimean war. He was appointed conservator in 1861 and stayed until 1884, when he succeeded Owen in the charge of Waterhouse's terra-cotta palace at South Kensington. He developed into a pure comparative anatomist and specialised in bones, and especially human bones. He amplified and enlarged Hunter's osteological collection, and has left in it a memorial to his industry and skill to which I shall refer later.

A word of explanation with regard to the natural history collection must here be introduced.

There were no natural history museums in London before Hunter's time. But the British Museum in its earlier days began to make such a collection. In 1809 they wanted to get rid of these specimens and sold them to us for £180, but in 1814 they found they had made a mistake, and so we sold them back again, but by good fortune retained the Evelyn plates of vessels and nerves, made in 1642 by a professor in Padua under Evelyn's direction and given by him to the Royal Society and by them to the British Museum. Dr. Keith has had them properly mounted, and they now have a prominent place allotted to them.

Hunter had a good many stuffed animals, but after obtaining a Royal Warrant, which is required before any of his specimens can be disposed of, they were sold or otherwise got rid of in 1829, 1834, 1843, and 1876; including, alas, those collected by Captain Cook. It must be remembered that at one time we used to fit out exploring expeditions, such as those of Captain Everard Home, Banks, Beechey, Franklin, Ross, Parry, and Darwin, with bottles and apparatus, and have now in our possession many of the specimens which they brought home.

When Flower left in 1884 he was succeeded by the amiable, retiring, laborious Stewart. Being a man of artistic temperament, he was attracted by such subjects as mimicry, symbiosis, and protective colouring. He was at first a teacher of physiology at St. Thomas's Hospital, but after his appointment here worked as a comparative anatomist. He extended Owen's rearrangement of the Physiological Series, which was not quite on Hunter's lines, as they both took rather the mechanical view as opposed to the physiological. A consummate draughtsman and a clear exponent, he made many discoveries which he was too indolent (may I say) to publish, but they remain on the stands as silent but eloquent witnesses of his work.

And now I should tell Mr. Hunter that the mantle has fallen upon a thoroughbred compatriot of his own, and should feel confident that between them there would be illustrated the *action of the principle of universal sympathy*, except, perhaps, that there might be some incongruity between the northern accent of the one and that which used to be current in the neighbourhood of Long Calderwood. It would be necessary to add that under Dr. Keith's guidance, with the able assistance of the curators, Mr. Shattock and Mr. Byrne, we are trying our best to keep Hunter's spirit in view in all the changes which have been lately made and are still in prospect, and that "Body, Blood, and Motion," is our motto, and that to illustrate the processes of life is our leading idea.

These are the conservators, but it would be wrong not to mention some of the illustrious workers who, without holding that office, devoted much time and labour—often a labour of love—to the Museum. Pre-eminent amongst them is Sir James Paget, who examined and elucidated so thoroughly, and wrote so much of the descriptive part of the catalogue; and besides his there are the names of Stanley, of Goodhart, and Doran and Eve, and men like Elliot Smith who have added complete chapters to its story.

GROWTH OF THE MUSEUM.

Some idea of the way in which the Museum has grown may be gathered by remembering that no part of the original building remains. The room which was first erected in 1800 and completed in 1813, just a century ago, partly on the site of houses belonging to the College, partly on that of the old theatre in Portugal-street, occupied a position in the middle of the three existing galleries, and this was large enough to contain all the 13,682 of Hunter's specimens, including some which, as I said, have disappeared, as is shown by a very indifferent sketch, apparently of Clift's, in which the head of a giraffe, no doubt the one which in 1834 went with the other stuffed animals to the British Museum, appears looking out of the Museum through the gallery into the Cabinet room, whatever that may have been.

The Museum is now more than three times the original size, and contains 64,766 mounted specimens; and there are besides still unexplored stores to which constant additions are being made.

Some people may wonder why we try to keep adding to our invested funds. I say nothing about the uncertainty of riches, though that is perhaps more obvious now than when the phrase was coined. But I should like to point out that the Museum will continue to grow, and that we may some day wish to enlarge it, which would involve three things: diminution in income from rents, loss of interest on capital expended, and increase in expenditure for upkeep.

The Museum now consists of three long rooms, two of which are parallel with one another, and the third at right angles to these, both the first and the third being divided into two parts. Roughly speaking, the last contains the Physiological Series, while the two others are devoted to Anatomy and Pathology; but there are other rooms to which reference will be made; and scattered throughout are curiosities which have to find places where they can. Here a huge skeleton of a whale floats, like Mahomet's coffin, in mid air, and elsewhere are such unlikely objects as the clothes of a man stripped off by lightning, leaving him intact, or the initials—perhaps of two lovers—found on splitting a beech tree, healed over and buried beneath many annual rings.

A TOUR OF THE MUSEUM.

But it is really time to proceed with the proposed formidable inspection, and I would suppose that we begin by conducting Hunter through the door opening out of the Conservator's office into the smaller part of the eastern room, in the cases round the walls of which is the commencement of the series of comparative osteology.

He would gaze with astonishment at the group of vast fossil skeletons, and might possibly ask us what they had to do with his Museum—a question which might at first seem hard to answer But the great black statue of Owen in the corner would remind us that in 1855 he gave some lectures in this theatre on Hunter's published and posthumous papers on fossils, and that he showed by many quotations that Hunter began to hold almost modern ideas about geology and [illegible] 17[illegible], when he was serving with the [illegible] of Noah's deluge had not satis[illegible] Fracastoro in the fifteenth century, but it still hampered the thoughts of scientific men of the eighteenth century. It is therefore remarkable that Hunter was able to emancipate himself so completely and, to quote from Owen, to recognise "first, the effects of running water as in valleys and river courses; secondly, the deposition of the matters so transported to the sea, noting the different distances to which such transported matters would be spread over the sea bottom, according to their size and other physical characteristics; thirdly, the erosive action of the sea on coasts, as moved by tides, currents, and winds; fourthly, the power and mode of operation of a retiring sea on a rising land; fifthly, igneous expansive force and volcanic eruptions; and sixthly, deposits through animal or organic agency."

This includes almost every agency of geological dynamics recognised at the present day, except that of ice, and was arrived at "by supposing from the state of the earth as it is now what must have taken place formerly." From this standpoint Hunter seemed to have an inkling of the origin of species and the gradual evolution of life, and was able to contemplate in some measure the antiquity of man. Thus it is fitting that (presided over by Owen) these horrid monsters should guard the portals of our Museum and that Hunter's 2773 fossils should be lodged, with his invertebrate specimens, in a special place of honour.

So we should turn to the left and tell him that the crowd of vertebrate skeletons in the next room, among which he would recognise many of his own favourite preparations, should really be in the cases along the walls, only unfortunately they are too large. These cases contain the continuation of the comparative osteology series. In passing we should [illegible] preparations illustrating th[illegible] mammalian bones. On our wa[illegible] be explained that leading out of them are the new rooms added last year containing a collection of surgical instruments, the embryo of a medico-legal collection, his own invertebrate collection and the fossils to which I have just referred. And then in the galleries he would find his own physiological series amplified and enlarged. We should show them with confidence, tempered by the fear that he might impatiently resent certain modifications of order and arrangement, though he could not fail to recognise that the *idea* had been grasped. We should point out that the physiological series still illustrates processes rather than isolated facts, and is, therefore, drawn from the whole range of comparative anatomy. Thus, taking as an example the heading "Kidney," he would find specimens from 133 animals other than man, no less than 71 out of the total 144 being his own; and that the same thing is carried out under the other headings.

In order to grasp the plan on which the whole Museum is arranged, it would then be best to visit the ground floor of the eastern rooms. Beginning with the cases on the walls, we should find illustrations of normal (and, it must be owned, some abnormal) varieties of humanity, amongst which Byrne, the Irish giant, would be a familiar object. There are skeletons of dwarfs, of average men and women, and of geniuses and of criminals; and then we should start on the splendid collection of skulls illustrating ancient and modern types and examples of those of all the races under the sun, present and extinct. This carries round both sections of the room and a considerable part of the middle room.

The floor of the eastern rooms is devoted to specimens illustrating human anatomy. First, the collection of disarticulated bones in progressive series, showing their development from early fœtal life to maturity; and then dissections, which are said to be unequalled, mostly made by the skilful hands of Mr. Pearson, who has been prosector here for 56 years.

The Pathological Section.

And now there would be left only the pathological section to which it would be my duty and my pleasure to especially invite the attention of my guest, as I now do that of my audience.

Hunter's catalogue of this part of his collection was left in considerable confusion, but it is clear that his idea was to divide it into two main groups, one illustrating processes of general pathology, the other the various morbid processes affecting particular organs. This has long been before the minds of those who have had charge of the Museum. But it is only during the last year that the Council has made arrangements for a full display of specimens illustrating general pathology.

The floor space of the central room has been cleared in a way it is needlees to describe, and if it were only possible to find a better home for the suspended skeleton of the whale, uninterrupted daylight would illuminate groups of glass and gun-metal stands so arranged that they can be observed from all sides, labelled and supplied with handy card catalogues, and following one another group by group in the following order:—

1. Hypertrophy.
2. Aplasia.
3. Hypoplasia.
4. Atrophy.
5. Degeneration.
6. Necrosis.
7. Repair and grafting.
8. Inflammation.
9. Infective diseases—
    Bacterial: Glanders, Acute Endocarditis, Diphtheria, Tubercle, Leprosy, Actinomycosis.
    Protozoal: Syphilis, Tropical Diseases, &c.
10. Cysts.
11. Tumours.
12. Foreign bodies.

I have placed upon the table a few Hunterian specimens in order to show that it has not only been possible, but highly advantageous to use them for this purpose. You will observe what remarkably fine preparations they are.

1. A ringed stem to illustrate	Hypertrophy.
2. An edentulous jaw to illustrate	Atrophy.
3. Atheroma of the aorta „	Degeneration.
4. Experimental necrosis on the metastarsal bone of an ass to illustrate	Necrosis.
5. A hare-lip cured } to illustrate ...	Repair.
6. A fractured clavicle }	
7. A cock's spur implanted in the comb to illustrate	Grafting.
8. Myositis ossificans ... . } to illustrate	Inflammation.
9. Necrosis of skull following a scalp wound ... ... }	
10. Tubercle in the lung of an ox } to illustrate	Infective diseases.
11. Specific necrosis of the skull }	
12 Gas cysts in a hog's gut to illustrate ...	Cysts.
13. Secondary sarcoma of rib „	Tumours.
14. Gunshot injury of humerus of swan to illustrate	Foreign bodies.

It would have been impossible in Hunter's time to make so complete a list as this because the great group of infective diseases would have been simple and unanalysed. If he had possessed a knowledge of bacteriology it would have saved him a vast amount of fruitless speculation, or at all events speculation which now seems to be disappointingly beside the mark. I think he would have lingered long over this department, for I hope it has been made clear that what has just been said is intended to be the kernel of my address: that this exhibition of illustrations of general pathology though a new departure, is Hunter's idea. and that it is not only new but good and, as far as I know, unique. I would, therefore, urge my hearers to visit and study it and judge for themselves of its utility and interest and of the skill of those who have brought it together.

The tour of the Museum would be completed by visiting the galleries of the central and eastern blocks, where the specimens are arranged according to the organs affected. In ascending to them it would be pointed out that a staircase descends to the basement in which is housed our unequalled odontological collection, where amongst the specimens which came to us from the Odontological Society are Hunter's own classical preparations.

And now I should bid my guest adieu, feeling, if not saying, that while in his writings there may be some things hard to be understood, here in our Meseum is recorded in unmistakable language the record of thoughts and ideas that is impossible to misapprehend.

SUGGESTED ANATOMICAL AND PATHOLOGICAL INSTITUTE.

Thus, in an imperfect way, I have tried to show what the Royal College of Surgeons has done, and hinted at the certainty that some day the Museum will have to be enlarged. Now let me put before you a vision of the future. Ought not this great city to have an Anatomical and Pathological Institute? Our University has again, by collision, passed into the nebulous state, and we know not in what form, nor, indeed, in what orbit or orbits it may finally revolve. It may be anticipated with confidence that it will emerge as a life-supporting globe or double star with a more equable temperature than at the present moment. Money is to be had for proper asking, and a site is generally obtainable when it is required. Can you not see such a noble institute close at hand, forming a part of a really living University, and also in close connexion with our College, attracting workers from all over the world, to utilise the vast material the Museum contains? It would strengthen the feeble bonds which at present unite us to the University, and supply a long felt want of the Medical Faculty. It would offer opportunities for original research in human and comparative anatomy and in pathology; and in its theatre lectures on advanced subjects would be delivered *urbi et orbi*.

RECENTLY DECEASED MEMBERS OF THE COUNCIL.

The terms of the bequest under which these orations are given instruct the speaker that "such Oration should be expressive of the merits in Comparative Anatomy, Physiology, and Surgery, not only of John Hunter, but also of all such persons, as should be from time to time deceased, whose labours have contributed to the improvement or extension of Surgical Science."

This would be an impossible task, for the whole world is apparently included in the purview, but according to custom and by inclination I must say a few words about two friends and colleagues on the Council whose vacant places we deplore.

Clinton Thomas Dent, an all-round original and successful surgeon at Hunter's own hospital, was Vice-President at the time of his unexpected death last summer. He had no specialism in medicine, and he will rather be remembered by his numerous friends for his many-sided character, multifarious attainments, and sterling worth than for striking additions to surgical practice or literature, and yet his contributions to them were neither few nor unimportant.

Sir Henry Trentham Butlin, my immediate predecessor, on the other hand, was well known as a surgical pathologist, whose chief labours were devoted to the treatment of, and the elucidation of the cause of, cancer, a subject to which it may be said he devoted his last breath. Those who can recall this day four years ago, when his oration was delivered in perfect English and without a note, will agree that he was a finished orator. We on the Council knew him as an admirable man of business, who wisely conducted the affairs of this College, as a man of the highest integrity, a pleasant companion, and a faithful friend.

COMPARISON OF LISTER AND HUNTER.

But beyond and above all the other leaders, or men in the ranks, who have passed away during the last two years, is Lister, who by common consent is the greatest—that is, the most thoughtful and original—surgeon since Hunter's time, one who more than any of his predecessors was influential in revolutionising both the science and the art of surgery. It is not the occasion to enter upon a survey of Lister's work, but it may be interesting to consider the influence that Hunter had upon him, and briefly to compare the two men.

The first time I heard the name of John Hunter was in my youth during one of Lister's vacations, which he often spent at his father's house. The subject he was describing is forgotten, but the name impressed itself upon my young memory, and many a time in after years have we, who were closely associated with him, heard this name recalled with reverence and admiration. Occupying a prominent place in his study was Sharp's engraving, bequeathed to him by Mr. Syme, and now my treasured possession, as is also the edition of Palmer's Life, which is marked in many places. These passages show that Lister was studying this book at the time he was making his early observations on coagulation of the blood. Indeed, a precise date may be fixed by a pencil note to the account of "a gentleman with violent inflammation in one of his eyes and whose blood was extremely sizy, though the coagulum was very loose." The note is "No excess of fibrin in this buffed blood apparently. J.L. /58." Other marks are opposite references to inflammatory fever; the principles of bleeding, and especially their possible dependence upon continuous sympathy; and local diseases cured by sympathy, as by the application of an irritating medicine applied to some other part which this diseased part sympathises with There are several in the lecture on aneurysm; indeed, there are exclamation marks opposite some references to hydrostatics And similar annotations are met with on the lecture on Fistula and elsewhere

It might be wondered what were the points of attraction between men in many ways so different Certainly Lister possessed none of Hunter's mania for collecting He had, indeed, what he called his museum, one or two bread pans containing specimens, no doubt of great value, and familiar to the succeeding generations of attenders at his lectures But his shelves and cupboards were filled with more transitory things—flasks and test tubes and the materials for experiment Lister bought no costly works of art, and was content with early or late Victorian furniture, and though he often adopted Hunter's generous but confusing method of leaving the amount of the fee to the patient's decision, he did not spend the proceeds in the same reckless way

The points in Hunter's methods which Lister seemed most to admire and adopt were, first, that he appears to have taken nothing for granted No matter how revered the teacher, how sacred the tradition, Hunter and Lister both asked themselves whether the evidence was sufficient to support the theory or warrant the treatment Perhaps they would not have liked to be called sceptics, but in scientific matters they were, and it is the only safe position for a scientific man to adopt, though it may not indicate the path of worldly wisdom to the practitioner

Illustrations might be given in Hunter's operation for aneurysm, or his observations in fistula in ano, or in Lister's amputation of the thigh, his excision of the wrist, or his methods of treatment of varicose veins or hydrocele But there is no need to multiply examples The whole story of *Lister's discoveries and of the modifications in ordinary* surgical practice which he introduced testifies to the truth of this assertion

But, secondly, the most striking resemblance between them is their habit of referring everything to experiment Their lives were occupied in testing by means of experiment every problem that presented itself They were, indeed, both of them, ideal inductive philosophers

It seems in some quarters to be considered that an inductive philosopher is debarred from framing for himself hypotheses, but this I conceive is not the case Did not Bacon himself say, "Vaga experimentia mera palpatio est"? Such an idea would seem to imply that the followers of that great thinker experiment at large, and only accept the results of those promiscuous excursions The difference, however, between them and the deductive philosophers is that the latter found their creed on deduction from unverified postulates, whereas the former require proof of the correctness of the premises before they complete the syllogism No great Baconian can get on without hypotheses, but he is ready to reject those that are not supported by his experiments Are not Pasteur and Darwin proofs of the truth of this statement?

There is an interesting appreciation of Hunter's character in Buckle's "History of Civilisation in England" Buckle is almost labouring the point that the trend of thought in Scotland in the eighteenth century was deductive and that in England inductive, and is arguing that Hunter was a sort of hybrid

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ticular facts, as [illegible] he
opposite plan of [illegible]

It is rash to differ from so great an authority, but, as a matter of fact, did Hunter really get his mind down on methods of reasoning and such abstruse questions during his idle youth at Long Calderwood, when he cared much more for country sports than for books, or whilst helping his convivial brother in law, Buchanan, in his carpenter's or [illegible] formation of his mind it must have come from his brother William But in reading much of his writings and in trying to assimilate the spirit in which the Museum was planned, I feel that Buckle has overstated his case, and that Hunter was essentially an inductive philosopher

And so was Lister His whole life was made up of experiments Any time that could be filched from practice or unavoidable public and private duties was spent in his study, investigating for himself such subjects as the coagulability of the blood, the growth of micro organisms, the properties of antiseptic substances, blood pressure, and so forth, and it is interesting to notice how he called in aid for the solution of his special problems a well grounded knowledge of botany, zoology, chemistry, and physics, subjects of which it is becoming too much the habit nowadays to minimise the importance

But there are fundamental differences between them, of which the most important (to speak with all respect) is that Hunter's work is the more diffuse He seems to fly from one subject to another, as if he were unable to resist the temptation to investigate everything that came in his way It is as though what has been referred to above as the spirit of the collector inspired his more serious work, and so he has left a record of an almost incredible number of problems either completely or partially elucidated

Lister, on the other hand, did not yield to this temptation if he felt it Starting on the narrow path upon which Providence had placed him he followed it till it broadened and straightened out into the great highway that led him to his goal Not that he denied himself the pleasure of occasional explorations of tempting by paths, but what he gained from these excursions was always utilised to corroborate and support him upon his journey And thus it comes about that Lister's fame rests chiefly upon the one great achievement of his life, whilst the lesser and more subsidiary ones are by many forgotten or ascribed to others, whereas it is difficult to mention one or even a few of Hunter's labours which stand out in glaring predominance above the rest

Of less importance but equally striking are the differences between them in temperament, culture, and manners Hunter was imperfectly grounded in general education, a small reader, abrupt not to say rough in his conversation, which was flavoured with a full share of the impetuous vocabulary of the eighteenth century Though generous he was impatient, though on the whole a good friend, he was somewhat inconstant, and his mind was so fully occupied with his work that more solemn subjects had no chance of consideration

Lister's mind was well stocked with classical and other learning, and his library was lined with carefully studied books He was gentle and courteous, and though full of humour he could not abide even those relics of coarseness which survived in "polite conversation" in the nineteenth century He was always ready to make allowance for the incompetence of those who did their best, he made no enemies, and his position as regards more serious matters was a very different one from that of his great predecessor

Both, however were fond of argument and neither in the course of it could easily brood opposition Verily it is a matter of thankfulness that they lived at different epochs It is well that Lister was able to contemplate Hunter's many great qualities and his few obvious defects through the modifying mists of the intervening years

CLOSING REMARKS

I have spent the last year in an atmosphere permeated by the spirit of John Hunter, I have had the privilege of passing the best years of my life in the closest intimacy with Lister, and I often ask myself in what way a genius surpasses the average man After a day passed in the company of such a one, and after meditating on any particular thing that he did, the ordinary man might fancy that there was nothing in it he could not have done equally well himself, and yet the life's performance is so different! The individual touches of the brush might conceivably be made by anyone, but only the artist can produce the picture. That, of course, depends upon the master mind which coordinates the details, making them minister to the result We cannot attain to that, and it is the consciousness of this superiority of the great that makes the position of ambitious mediocrity so painful. But though we cannot reach to the height of Lister or of Hunter we may make our lives more useful by imitating their extreme diligence, their accuracy, and their habit of finishing whatever they were engaged upon before turning to the next matter; by not shirking the long days of labour and nights devoid of ease, or spending too much of our time on pleasures and indulgences.

The problem of life to Hunter was the still unsolved riddle of its meaning and of its origin. Lister was content with the belief that at the present day there is no spontaneous generation. Had he doubted the truth of this doctrine he might possibly have had misgivings as to the truth of the gospel that he preached. Fortunately he did not doubt, for he was a man of firm convictions.

But after all, whether chemical changes are now and always converting dead inorganic substances into living protoplasm is, for practical men, no more important than the more abstruse question as to whether matter is composed of atoms or vibrations. Life for us has another meaning; whilst the blood is moving in our bodies, as John Hunter said, we have life, and the problem for us, taking him for an example, is not simply to keep alive, but to live well.

> Nicht dass man lebe, sondern wie,
> Ist Mannes wurd'ges Streben;
> So lang mir Leben Gott verlieh,
> Will ich's lebendig leben.

TRANSMISSION TO MONKEYS OF VIRUS OBTAINED FROM ENGLISH CASES OF POLIOMYELITIS.

By JAMES McINTOSH, M.D. ABERD.,
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AND
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ACUTE anterior poliomyelitis, or infantile paralysis, has, during the last few years, been occupying the attention of the medical world on account of the epidemics of varying intensity which have occurred in Europe and North America. Prior to 1909 the infective nature of the disease was based on epidemiological and pathological evidence; in that year, however, Landsteiner and Popper[4] demonstrated the correctness of the deduction by producing the disease in monkeys by the inoculation of an emulsion of the spinal cord of a fatal case of infantile paralysis. The possibility of transmitting poliomyelitis to monkeys has been confirmed by Knoepfelmacher,[3] Strauss and Huntoon,[12] Flexner and Lewis,[1] Levaditi and Landsteiner,[5] Leiner and Wiesner,[7] Römer,[10] and Thomsen.[13] Landsteiner and Popper failed to propagate the disease in series, but Flexner and Lewis, and later Landsteiner and Levaditi, showed that the disease could be propagated in series in the monkey.

Up to the time of writing no one has recorded the successful inoculation of the virus in Great Britain. Levaditi in Paris, however, managed to transfer the disease to monkeys from pieces of cord sent to him by Dr. M. Gordon.[6] Dr. Gordon's material was obtained from cases which occurred in an epidemic in Devonshire and Cornwall in 1911. Whether the English virus is absolutely identical with the continental and American virus has yet to be demonstrated.

In the district (East London and Lower Essex) embraced by the London Hospital acute anterior poliomyelitis has been increasing in prevalence during the last three years, and from June to October, 1912, over 30 cases were admitted into the hospital as in-patients. According to Dr. E. G. Fearnsides, medical registrar, a considerable number of cases of herpes zoster were observed simultaneously with the cases of infantile paralysis.

This paper deals with the inoculation into monkeys of material from four cases of poliomyelitis which, with one exception (Case 1), occurred in the London Hospital district.

Inoculation technique.—In every instance the monkeys were inoculated intradurally as well as intraperitoneally with the emulsions of cord. Pieces of the spinal cord and brain, unless otherwise stated below, were on their removal from the body transferred to a bottle containing a 33 per cent. solution of glycerine in saline and were kept in the ice chamber till required. For the inoculation of a monkey about 1 grm. of cord was placed in a conical glass, cut into as small pieces as possible with a pair of scissors, pounded up with a glass rod, and finally rubbed up with about 6 c.c. of saline. The larger particles were allowed to settle, and then the emulsion was drawn into a syringe. In practice it was found better to use a 10 c.c. record syringe for the intraperitoneal injection, and a 0·5 c.c. syringe with a finer needle for the intradural inoculation. Under an anæsthetic (ether) a small incision about ¼ in. long was made down to the periosteum just above the superciliary ridge and just outside the middle line. A small hole was then made with a drill (diameter 2 mm.), a fine needle introduced, and 0·5 c.c. of the emulsion injected. At the same time 4 to 5 c.c. of the emulsion were injected into the peritoneum.

The clinical histories and pathological reports of the cases from which the material for inoculation was obtained are detailed below.

In order to abridge the description of the microscopical changes it is advisable to refer here to some of the salient features found in these cases and in other cases of poliomyelitis which have been obtained from the neighbourhood in the last two years. Definitions can thus be given of the terms employed.

General characteristics of infiltration.—Infiltration is found in the meninges, especially the pia, in the lymphatic sheaths of the vessels, and in the nervous tissue external to the sheaths. It may be present in the nerve roots and their ganglia. In the case of many of the larger vessels within the cord and brain the arteries and veins are enclosed in a common lymphatic sheath which is a direct extension of the pia. This is seen very clearly in the case of the large branches of the arteries and veins which enter the cord from the anterior fissure. The smaller vessels and at any rate the larger capill [illegible] proper to themselves. Where smaller [illegible] vessels enclosed in a common sheath, the [illegible] sheaths are seen to be in direct continuity. Both these "common" and "individual" lymphatic sheaths will be referred to as "adventitial sheaths," a distinction only being made in cases in which there is a marked difference in the cells of their respective infiltrations.

The infiltration of the substance of the cord or brain external to the collagenous membrane which bounds the adventitial sheaths may be called the "extra-adventitial infiltration." This is seen in three forms. 1. As a more or less evenly distributed infiltration in the glial matrix. 2. As groups of cells packed together in areas in which glial fibres are absent. The former infiltration will be referred to as "diffuse," the latter as a "focal c [illegible] dition to these two forms of extra-adve [illegible] of cells round, and in some cases withi [illegible] otoplasmic processes requires special me [illegible] uronophagia" Some of the "focal aggregations" doubtless represent collections of "neuronophagocytes" whic [illegible] placed degenerate nerve cells Their distribution [illegible] ut in many aggregations there is no evidence of th [illegible] lie, as a rule, in close relation to small capillaries, others occupy extensive areas. A zone of infiltration is frequently seen round a delicate capillary in which no adventitial sheath is visible. Such perivascular infiltration is doubtless the precursor of many of the "aggregations."

The character of the cells in the infiltrations.—The cytology of all the cases examined is in general very similar. The character of the infiltration differs, however, in each of the above-mentioned sites. Striking variations are also found in the character of the cells, and more particularly in the relative number of the different cells, in the same sites in different cases and even in different portions of the central nervous system in individual cases. In order to compare different cases it is necessary, therefore, to enumerate the chief types of cells which may be found, and to furnish them with names. For the examination of the cells the stains of Jenner and Unna-Pappenheim have been chiefly employed.

The cells in the infiltration of the adventitial sheaths.—The majority of the cells have a basophile protoplasm devoid of specific granules. Although there appear to be transitional forms between these non-granulated cells, there are four types which can be identified with little difficulty. Incidentally it may be mentioned that the recognition of these types is of importance in determining the origin of the cells.

1. The majority of the cells are usually closely similar to the *small and large lymphocytes* of the blood. Large forms, as a rule, predominate. The smaller ce [illegible] ingle nucleolus, the larger may have two or ev [illegible] e protoplasm of the larger cells is usually more [illegible] contains some large vacuoles.

2. Closely allied to these are cells which on an average have a surface area equal to from three to five red corpuscles. Their protoplasm is intensely basophile and coarsely reticulated. The nucleus contains large, oval, very conspicuous nucleoli; three nucleoli are usually seen These cells are similar to cells present in the germ centres and in the rest of the lymphadenoid tissue of lymphatic glands. Deeply basophile cells containing karyokinetic figures are also found in many cases; these cells are usually of about the same size as the cells under discussion. In the absence of a less compromising term the cells of this type may be called "*lymphoblasts.*"

3. Easily distinguished from the above is a cell which averages in surface area three red corpuscles. It has a very faintly basophile, finely reticulated protoplasm. The nucleus has a much more delicate membrane and more delicate fibrils of chromatin than in the cells already described. The chromatin is arranged in a net which may be very similar to that of the fixed cells of the adventitial sheath, but is as

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2. In areas of diffuse infiltration there are other cells which appear

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The cells in the focal aggregations.—Here (1) *neutrophile leucocytes* and (2) *polyblasts* are found. The relative number of the former varies extremely. When they are present they usually show different degrees of degeneration and disintegration; their remnants are engulfed by the polyblasts. The polyblasts may resemble typical "*fat-granule cells.*" (3) *Lymphocytes* are frequently present in the aggregations which are found round small capillaries.

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CASE 1.—Female, aged 14 years, of St. John's Wood. The history of the case was as follows:—

History.—On Saturday, Dec. 24th, 1910, the brother of the patient, aged 17 years, complained of being unwell. On Sunday he still felt out of sorts, refused to go to church, and said he had difficulty in breathing. Later in the day his symptoms became alarming, and the doctor was called in and diagnosed œdema of the lungs. The breathing became more and more difficult, and he died at 2 A.M. on Monday, after

, aged 14 years, said she

of bed; the doctor was

she had difficulty in

ed at 7 P.M. that evening

ed. Death took place at

as made on Dec. 29th. Nothing abnormal was found except that the grey matter of the cord was very congested.

About $1\frac{1}{2}$ inches of the cervical cord of this case were obtained from Dr. Henry Head.

be pale or pyknotic. There is an increase in fixed and free

The piece of cervical cord was removed aseptically and kept 11 days in the ice-chest under aseptic conditions, then an emulsion of the cord in normal saline was made and injected intradurally and intraperitoneally into three monkeys (Macacus rhesus). No rise of temperature or any bad effects were observed in any of the animals, and a histological examination of pieces of the brain and cord of one of them showed no alteration suggestive of poliomyelitis.

CASE 2.—A boy, aged eight months, of Leyton, N.E. The patient was admitted to the London Hospital under the care of Dr. Otto Grünbaum on Oct. 6th, 1911, 14 days after the onset of illness, and died on Nov. 20th, 1911.

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tonic, but not wasted. N

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could not be obtained, and there was no evidence of involvement of cranial nerves. The heart and lungs were clear; the temperature ranged between 99·8° and 93° F.

Under treatment with massage and passive movement the right arm and leg improved considerably; the left leg, however, showed little improvement, and wasted. On Nov. 13th the child developed nasal and faucial diphtheria, from which he died on the 20th.

Summary of necropsy (No. 1188; Nov. 21st, 1911).—Bronchopneumonia. Nasal, pharyngeal, and laryngeal diphtheria. Healing polio[illegible]

[illegible] *tral nervous system.*—The dura was firmly adherent to the calvaria, which averaged about two millimetres in thickness. The cerebral venous sinuses contained fluid blood [illegible] The pial vessels of the brain were injected. [illegible] flattened. The cisternæ basalis and magna [illegible] by clear fluid. Before complete exposure [illegible]ninæ of the first thoracic vertebra were removed, and the posterior roots of the first thoracic segment were ligatured. The subarachnoid space over the termination of the cord contained about one drachm of clear fluid. The inner surface of the dural theca was smooth and glistening. The leptomeninges were thin and transparent.

The following appearances were seen on section.—In the cerebral hemispheres the cortex was flat and of a uniform purplish-grey colour; the medulla was white. No abnormality was detected in the basal ganglia, pons, and bulb, save a minute hæmorrhagic dot in the centre of the decussation of the pyramids. In the greater part of the cord the grey matter was grey and the white matter white. In the fifth cervical [illegible] horn was pink; vessels were visible in the [illegible] greater part of the cervical region. Vessels [illegible] matter of the third and fourth lumbar segments; the anterior horn on the left side of the fourth lumbar segment became slightly sunken.

Segments were removed from the cervical, thoracic, and lumbar region for inoculation.

Microscopic examination.—The fourth lumbar, seventh thoracic, and seventh cervical segments, portions of the *medulla, pons, cerebellum, right and left* [illegible], centre of *right and left Rolandic regions*, and [illegible] were fixed in 4 per cent. saline formalin and embedded in paraffin. Other portions were placed in Müller's fluid for Marchi's method. Sections of the 15 portions fixed in formalin and embedded in paraffin show, with the exception of œdema of the leptomeninges of the cerebrum, no abnormalities save in (1) the fourth lumbar, and (2) the seventh cervical segments.

(1) In the *fourth lumbar segment* there are a very few lymphocytes in the pia, especially in the neighbourhood of the veins. There is a conspicuous, large, round, pale area of softening in the ventrolateral portion of the left anterior horn. Nerve cells are still present in the mesial portion of the anterior horn and the base of the posterior horn. The adventitial sheaths of some of the vessels within the left anterior horn are infiltrated. The cells are almost all very large, vacuolated, fat-granule cells; they have either a large twisted, pale nucleus showing a [illegible] *chromatin, or they have a smaller, oval,* [illegible] which the structure is obscured. There [illegible] In the extra-adventitial tissue there are [illegible] similar fat-granule cells and a marked excess of fixed and free glial cells.

On the right side a few nerve cells still remain in the lateral groups. A similar infiltration of the adventitial sheaths and of the extra-adventitial tissue is present. Fat-granule cells outside the adventitia are rare on this side, and there are few free glial cells.

(2) In the *seventh cervical segment* there is a great diminution in the number of nerve cells in both anterior horns. On both sides the lateral, and especially the ventrolateral, groups have suffered most; the lateral groups on the right side are almost completely destroyed. There is a slight infiltration of the sheaths of a few vessels in both anterior horns by fat-granule cells and occasional lymphocytes. In the extra-adventitial tissue there is a marked excess of fixed and free glial cells, the excess being slightly greater on the right side.

In neither segment are leucocytes containing specific granules, or plasma cells present in the infiltrations.

Pieces of the cervical, thoracic, and lumbar cord were emulsified in normal saline and injected into a Macacus rhesus monkey, but although the monkey was observed over a long period of time no bad effects were seen.

CASE 3.—A boy, aged 18 months, of Stepney, E. The patient was admitted to the London Hospital under the care of Dr. Cecil Wall on the evening of Sept. 27th, 1912, and died 13 hours later.

History.—The patient was the second of two children. His only brother was alive and healthy, aged 4 years. His father and mother, who had been married five years, enjoyed good health. There was no family history of tuberculosis, rheumatism, or nervous disease. The patient was a fine, healthy baby at birth. He was breast-fed for 12 months, and had never had any previous illness. On Sept. 23rd, *four days before admission*, the child was noticed to be cross, feverish, and ailing. On the evening of this day he *vomited*. Since the onset of the illness he had been drowsy, thirsty, and constipated. No local weakness had been noticed by the mother, who had nursed the child. On Sept. 27th, the day of admission, about 5 P.M., the *mother noticed* that the child's breathing suddenly became embarrassed and that his colour altered. At 7.30 P.M. the child [illegible]

On admission the child was a fine, [illegible]-looking baby. The face was flushed, the lips blue, the extremities greyish blue. From time to time under observation, in attacks, the colour of the child was seen to become greyer and more ashy. He cried seldom, and then the cry was feeble. Over the region of both shoulders was a macular eruption, which had not been noticed by the mother.

Cranial nerves.—There was no absolute palsy of any eye muscle, but under observation dissociated movements of the eyes were seen. The face was symmetrical. The tongue could be protruded and the child swallowed readily. The trapezii and sternomastoid muscles acted poorly.

Motion.—Both arms were flaccid and paretic, and under observation were not moved voluntarily. The left leg was paretic and undertoned; the right leg was seen to be drawn up spontaneously on occasion, and it could be induced to retract reflex[illegible] intercostal muscles on both sides were [illegible] spiration was carried out entirely by [illegible] The respiratory movements were acc[illegible] *movements*" of the larynx and "tooth[illegible] jaws and lips. On the lips was froth. There was no stridor. The muscles of the erector spinæ group were all paralysed. The child when picked up by the waist fell backwards like a formless mass.

Reflex movements were elicited from the face and right leg when these were pinched.

Reflexes.—The knee-jerks could not be obtained on either side. The plantar reflexes on each side were flexor in type. The abdominal reflexes could not be elicited. Doubtful arm-jerks were obtained. Kernig's sign could not be elicited. The pupils reacted readily to light.

[illegible] rate of the pulse was [illegible] was 64 per minute. [illegible] normal dulness over [illegible] ses produced in the throat.

The child died at 8.30 A.M., 13 hours after admission, from increasing respiratory difficulty. During the night preceding death he had five or six attacks of grave dyspnœa accompanied by universal greyness, much retraction of the lower ribs, and an increased degree of cyanosis; he swallo[illegible] these produced no improvement.

Summa[illegible] *Sept. 30th, 1912).—"Respiratory failure.* [illegible] *Collapse of lower and posterior portion of right lower lobe and of inferior margins of both lobes of lungs. Tuberculosis; a few caseous areas and caseous miliary tubercles in the glands in the central and upper tiers of the mesentery; submiliary granulation tubercles in spleen (2 oz.). Great congestion of liver (15 oz.), kidneys (3 oz.), stomach, and intestines. Large thymus (35 grm.), lingual, faucial, and pharyngeal tonsils; general enlargement of lymphatic glands; large Peyer's patches and solitary follicles in intestine. Muco-pus in right mastoid. A very fat, well-developed child."*

Macroscopic examination of central nervous system.—The calvaria was 1 to 2·5 mm. thick, and hard to cut with the knife. The dura was adherent only in the region of the anterior fontanelle; its inner surface was smooth. On removal of the dura the hemispheres showed flattened convolutions with narrow, shallow sulci. The subarachnoid veins were engorged. The surface of the brain was in general of a dull, rosy-grey colour, with numerous bright red, small vessels coursing over the convolutions. There was a small, diffuse, subarachnoid ecchymosis on the left frontal pole, and a few minute petechiæ on the orbital surface of both frontal lobes. The lateral ventricles each contained from 10 to 20 minims of clear fluid. Before exposure of the spinal cord the laminæ and spine of the first thoracic vertebra were removed, and the posterior roots of the first thoracic segment were ligatured. The subarachnoid space over the lumbar region was much distended by slightly opalescent, faintly blood-stained fluid. The veins of the vertebral canal were greatly engorged. The arachnoid membrane was thin and transparent.

The following appearances were seen on section.—In the cerebrum the cortex was dark, purplish-grey, firm, flat, and sharply defined from the white matter. The white matter was somewhat dry and showed numerous injected vessels from which blood oozed spontaneously. The grey matter of the basal nuclei, pons, and medulla had a purple tint. The anatomical pattern in the brain and bulb was normal; there were no petechiæ. The grey matter of the cervical cord was dark, slaty-grey, and showed injected vessels; the grey matter of the lumbar cord bulged and showed numerous delicate, injected vessels.

The fifth, sixth, and seventh cervical segments and the third lumbar segment were removed and placed in 20 per cent. glycerine for inoculation.

Microscopic examination.—The third lumbar and eighth cervical segments were fixed in 4 per cent. saline formalin, embedded rapidly in paraffin, and examined for the confirmation of the diagnosis.

(1) In the *third lumbar segment* the posterior roots, within the arachnoid space, and their vessels are free from infiltration. There is a little infiltration round the vessels and within the neural sheath of the anterior roots. There is great infiltration of the pia in the antero-lateral regions and [illegible] region. The prolongation of the pi[illegible] its continuation round the large branches of the anterior spinal arteries and veins within the cord are densely infiltrated. The adventitial sheaths of almost all the vessels which pass from the pia through the white matter, and of the larger vessels within the grey matter, are infiltrated. The majority of the capillaries within the grey matter show no adventitial infiltration. An epispinal space is only present in a few places; it is not infiltrated. Definite perivascular canals are very seldom present. When present they render the adventitial nature of the infiltration conspicuous. They frequently contain hyaline spheres, but rarely contain any cells. The vessels in the meninges and grey matter are engorged. There is a large patch of extra-adventitial infiltration in the white matter, close to the periphery of the cord, on the ventral side of the entrance of the right posterior root. There is slight diffuse infiltration in the ventral portion of the lateral white columns. Diffuse infiltration is extreme in the anterior horns and marked in the bases of the posterior horns. It is greatest in the right anterior horn. In this horn there is much vacuolation, the tissue being obviously softened. In the left horn there is also vacuolation, but this is more focal. In both anterior horns are conspicuous "cellular aggregations." In both anterior horns there is extreme degeneration and necrosis of the nerve cells. Many cells have entirely disappeared. In the posterior horns the majority of the nerve cells retain an angular shape, but complete or incomplete tigrolysis is present. Neuronophagia is in places very marked.

Cytology.—In the infiltration of the common sheath of the vessels in the anterior fissure and of their large intraspinal branches the majority of th[illegible] larger forms being most numerous. Th[illegible] There are many hyaline cells. A few [illegible] Many are phagocytic, containing pyknotic nuclear remnants. In the infiltration of the individual sheaths of the smaller vessels hyaline cells are relatively more abundant.

[illegible]

destruction on the left side. As in the lumbar segment, scarcely a single neutrophile leucocyte can be found outside the lumen of the vessels.

(3) *Sacral and upper and lower thoracic segments; medulla, mid-brain, and left central region of cortex.*—In order to obtain an idea of the extent of the lesion blocks containing these areas were cut and stained. Different degrees of characteristic infiltration were found in all.

The pieces of the lumbar and cervical cord were kept in 20 per cent. glycerine for seven days at room temperature, and then emulsified in saline and injected into a Macacus rhesus monkey on Oct. 4th, 1912. Eight days later the monkey developed facial paralysis, and two days later paralysis of the right leg. On Oct. 15th the symptoms were more marked, and the animal was killed by coal gas.

Strain A, Passage I.—Male Macacus rhesus No. 4.

Summary of necropsy (Oct. 15th, 1912).—"Poisoning by carbon [illegible]

[illegible] There were [illegible]

[illegible] rfectly transparent, and there [illegible] ninges in the Sylvian fissures. [illegible] cord the laminæ and spine of [illegible]

[illegible] the crura and tegmentum were white [illegible] was pale grey; there wer [illegible]

[illegible]

Segments from the cervical, thoracic, and lumbar regions were removed for inoculation.

Microscopic examination.—In order to verify the diagnosis three segments—the third lumbar, sixth thoracic, and third cervical—were embedded in paraffin and examined prior to a full microscopic investigation of the organs.

[illegible] n the antero-lateral [illegible] Within the anterior [illegible] on of their sheaths. [illegible] the largest and most numerous [illegible]

necrosis. Several [illegible]

granular masses surrounded and infiltrated by numerous round cells. There are also a *few cellular aggregations which do not appear to be connected with neuronophagia.*

Cytology.—The majority of the cells of the adventitial infiltration are lymphocytes. Small lymphocytes are present, but the average cell [illegible] A few lymphoblasts are [illegible] karyokinesis. There are [illegible] etween the hyalines and [illegible] Some of the [illegible] deeply basoph [illegible] cells. There [illegible]

[illegible] a *few vessels close* [illegible] nerve cells of the [illegible] and irregularly [illegible], prevents stress

[illegible]—There is a little infiltration round the left posterior root and in the [illegible]

[illegible] diffuse infiltration were found in the *sacral cord, brain stem,* and *cerebral cortex.* The greatest *diffuse infiltration was found in the region of the nucleus of the seventh* cranial nerve on the left side.

CASE 4.—A boy, aged 2¼ years, of Bethnal Green, E. This patient was admitted to the London Hospital, under the care of Dr. Robert Hutchison, at 3 P.M. on Oct. 24th, 1912, and died at 1 A.M. on Oct. 25th.

[illegible] illness.

[illegible] pain on movement and of great thirst. At 8 A.M. on the day of admission (*fifth day of illness*) he suddenly became worse, he became weak and languid and no longer moved his limbs. At 11 A.M. he started to breathe badly and became blue. Four hours later he was admitted to hospital.

The other children at home were all well, and the patient's mother had no knowledge of any other children ailing at the same time, and did not know of any other cases of paralysis amongst her relations. [illegible]

His mentality was unimpaired. He had no fits. There had been no vomiting since the 20th, the day of onset.

Cranial nerves.—The eyes moved naturally. The pupils reacted briskly to light and on accomm [illegible] movements of contraction and dil [illegible] there was no change in the amour [illegible] face was symmetrical and move [illegible] protruded well; it was coated [illegible] swallowed readily. The discs and fundi were normal. Hearing was unaffected.

Motion.—The legs, lower intercostal muscles, and belly muscles were completely paralysed, and all the back muscles below the clavicles were atonic. The child arched backwards when lifted by the middle of his back. The right arm below the shoulder was paretic; the left arm could be moved slightly. On both sides the diaphragm acted fairly well. The two upper intercostal muscles seemed to contract synchronously with the diaphragm and the sternomastoids during inspiration. No loss of sensation could be detected.

The knee-jerks, ankle-jerks, and abdominal reflexes could not be elicited on either side. On attempting to elicit the plantar responses a slight downward movement of the toes occurred. The skin over pressure points readily developed an erythema which disappeared in about five minutes after the removal of the pressure. There was incontinence of urine without retention. The child died 10 hours after admission from respiratory failure.

Summary of [illegible] *5th, 1912).—"Respiratory failure. Acute* [illegible] *lapse of lower two centimetres of right lo* [illegible] *of liver; great congestion and œdema of l* [illegible] *us gland in lower tier of mesentery, nearer cæcal border. Three agonal intussusceptions in small intestine. Streaks of altered blood in stomach. Threadworms in cæcum, appendix, and c* [illegible] *in injected urinary b* [illegible] *mitral valve. Slight p* [illegible] *Mucous catarrh of nose.* [illegible] *d well-nourished child* [illegible]

Macroscopic examination of central nervous system.—The fontanelles were closed. The dura was adherent to the calvaria along the superior longitudinal sinus. The superior longitudinal and other venous sinuses contained fluid blood. The convolutions on the cerebral hemispheres were slightly flattened, the sulci being somewhat shallow. The brain appeared and felt large and bulky. Each lateral ventricle contained about half a drachm of fluid, which appeared slightly opalescent when drawn up into a pipette. The laminæ and spine of the first thoracic vertebra were removed, and the posterior roots of the first thoracic segment were ligatured before exposure of the whole cord. On incision of the dura over the lumbar region the arachnoid was bulged outwards by about an ounce of fluid. This fluid, when examined in a test-tube, was seen to be slightly milky. The inner surface of the dural theca was smooth; it showed one pin-point hæmorrhage at the level of the emergence of the seventh left thoracic root.

The following appearances were seen on section. The cerebral cortex in the right central region was of a purplish colour and sharply defined from the white medulla; numerous fine vessels were visible in both cortex and medulla—they were more conspicuous in the latter. In the mid-brain the tissue was firm, the grey matter was grey; there were visible vessels in the crura and tegmentum. There was no injection of a cut surface through the centre of the pons. At the level of the centre of the olives the grey matter in the floor of the ventricle was purple and a few injected vessels were present. The cut surface of the second cervical segment was flat and firm; its grey matter was grey; blood oozed from small vessels. In the fourth cervical segment the grey matter was pink and showed numerous injected vessels. The right branch of the anterior spinal artery was either greatly injected or surrounded by hæmorrhage. In the fourth cervical segment the grey matter was pink and dotted with injected vessels; the cut surface was flat. In the seventh segment the surface bulged slightly, the [illegible] blurred, and numerous engorged vessels were [illegible] d white matter; there was a punctiform [illegible] matter on the right side. The grey matter of the third thoracic segment was paler pink; injected vessels were visible therein. In the eighth thoracic segment injection of vessels was very marked on the right side. The grey matter of the first lumbar segment was slightly swollen and pink and contained injected vessels. In the second lumbar segment the grey matter was pinkish-yellow, softer and more swollen; it contained injected vessels. The cut surface of the fourth lumbar segment was injected and bulged considerably.

A large slice from the centre of the right hemisphere together with the fourth and seventh cervical, the third and eighth thoracic, and the second and fourth lumbar segments, were placed in 33 per cent. glycerine for inoculation.

Microscopic examination.—Portions of the fourth lumbar, twelfth thoracic, and sixth cervical segments were fixed in 4 per cent. saline formalin and embedded in paraffin for immediate examination.

(1) *The fourth lumbar segment.*—There is a little infiltration of the arachnoid and of the adventitia of the vessels accompanying the spinal roots. The pia is markedly infiltrated in places on the anterior and lateral aspects of the cord. The pial extension in the anterior fissure is infiltrated; the infiltration is greatest in the dorsal extremity of the fissure and in the common sheaths of the vessels branching from the fissure. There is also infiltration of the sheath of almost all the vessels which pass through the white matter, and of the sheaths of numerous vessels within the grey matter. There is no adventitial [illegible] illaries in the anterior horns. There is a very [illegible] of the anterior horns. There is also consider- [illegible] of the posterior horns and of the white matter immediately surrounding the anterior horns

In the anterior horns there are many cellular aggregations; on the left side these are very large and occupy extensive areas. Engorgement of the vessels in the grey matter is very conspicuous, and there are some small hæmorrhages. The nerve cells in the anterior horns are almost all completely necrosed and represented by rounded hyaline masses; in the posterior horns they show varying degrees of degeneration, and here slight neuronophagia can be seen. The central canal is empty.

Cytology.—In the infiltration of the sheaths the majority of the cells are lymphocytes. Lymphoblasts are not numerous. Hyalines are present in considerable numbers, and there are a few phagocytes. Pyknotic bodies are not numerous. There are considerable numbers of eosinophile leucocytes; neutrophile leucocytes are exceedingly scarce. One plasma cell was seen. In the diffuse infiltration there are large numbers of fixed and free typical glial cells and elongated glial cells. There are also many polyblasts. There are very few neutrophile leucocytes. There is a considerable number of pyknotic bodies, and some of these can be recognised as remnants of [illegible] few eosinophile leucocytes are present. I [illegible] the cells ares almost all polyblasts. Many [illegible] others contain pyknotic nuclear remnant [illegible] leucocytes can be found; they are degenera [illegible] the nerve cells are free typical glial cells [illegible] are absent. There are considerable numbers of neutrophile leucocytes in the vessels; eosinophile leucocytes are also present.

(2) *Twelfth thoracic segment.*—There is a little infiltration of the arachnoid. The pia is almost completely free. The infiltration of the pia in the anterior fissure is confined to its dorsal extremity. There is marked engorgement. Several vessels in the white and grey matter show adventitial infiltration. There is diffuse infiltration throughout the grey matter on the left side; on the right it is confined to the ventro-lateral region of the anterior horn and a small area in the posterior horn. The nerve cells in the left anterior horn are represented by hyaline bodies, in the left posterior horn they show central tigrolysis. In the right anterior horn a few within the area of infiltration are shrivelled and degernerate; others in the margin of the infiltration are of good shape and show sharply defined Nissl's granules. Some cells which are not implicated in the infiltration show severe degeneration. The cells of the different infiltrations are very similar to those in the lumbar segment. There is very little neuronophagia, and neutrophile leucocytes are not present round the nerve cells.

(3) *The sixth cervical segment.*—There is a little infiltration in the sheath of some vessels in the dura. There is marked infiltration within the neural sheath and round some of the vessels of the left posterior root as it crosses the arachnoid. The pial infiltration is almost confined to the dorsal portion of the expansion within the anterior fissure. The vessels are greatly engorged, and there are some small hæmorrhages. There is infiltration of the sheaths of almost all the vessels which cross the white matter and of vessels in the anterior and posterior horns. There is much diffuse infiltration of both anterior horns, the right posterior horn, and the base of the left posterior horn. There is an area of œdematous rarefaction near the centre of the left anterior horn. [illegible] smaller than in the lumbar segment. [illegible] side. In the left anterior horn the [illegible] the exception of a few which are completely necrosed; in the right anterior horn there are many more nerve cells, but they show varying degrees of shrinkage and degeneration. There is considerable neuronophagia on this side.

The infiltration of the sheaths is very similar to that of the lumbar segment. Several of the hyalines are phagocytic; one contains a neutrophile leucocyte in which granules are still present. In the diffuse infiltration more neutrophile leucocytes are recognisable, but they are very degenerate. In the cellular aggregations and amongst the neuronophages a few degenerate neutrophile leucocytes can also be identified.

In the infiltration of the left posterior root neutrophile leucocytes greatly preponderate. Within the vessels there are some eosinophile and considerable numbers of neutrophile leucocytes.

(4) In additional sections adventitial and diffuse infiltration were found in the *medulla, pons, basal ganglia,* and *cerebral cortex.*

A piece of the lumbar cord was emulsified in saline and injected into a Macacus monkey on Oct. 26th, 1912. Six days later the monkey was seen to be less lively than usual, and on examination was found to have considerable weakness of both arms and legs. The animal showed a great disinclination to move from one spot to another, or to jump. The general weakness gradually increased, and the animal was killed by coal gas three days after the onset of symptoms.

Strain B, Passage I.—Female Macacus; weight 3 lb. 9½ oz. No. 7.

Summary of [illegible] —"*Poisoning by coal gas. Acute polioencephali* [illegible] *wound. Helminthiasis.*"

Macroscopic [illegible] *nervous system.*—There was a shaven area over the left eyebrow, and in this was a scar, measuring 8 mm. long, and lying 1 cm. behind and 3 mm. to the left of the nasion. Beneath this there were some adhesions between the scalp and pericranium. A probe could be thrust through a small hole in the calvaria, 1 cm. behind and 1·2 cm. to the left of the nasion. Beneath the hole in the calvaria there was a small perforation of the dura. The dura was tense; its inner surface was smooth and pink. The superior longitudinal and other venous sinuses contained a little fluid blood. The surface of the hemispheres was smooth. The sulci were well marked. The vessels of the leptomeninges were cherry-red. There was a slight adhesion of the dura to the left frontal lobe at the site of the perforation, and beneath this was a yellow spot on the cortex, 1 mm. in diameter. The posterior roots of the first thoracic segment were ligatured before exposure of the whole cord.

The following were the appearances on section. The cortex in the centre of the right hemisphere was pale yellow and the medulla pure white. After fixation in formalin a small red, wedge-shaped area was seen below the yellow spot on the left frontal pole at the site of inoculation. In the mid-brain and pons, posterior to the fifth nerve, the white matter was white and the grey matter grey, and there was no visible injection. Between the second and third cervical segments the grey matter was pink, and there was a bright red point in the base of the left posterior horn. Between the fourth and fifth segments there was a fine, bright red line at the base of the posterior horn. Between the sixth and seventh segments the grey matter was pink and there were visible vessels. Between the eighth cervical and first thoracic segments the grey matter was of an even pink. At the sixth and eighth thoracic segments the grey matter was pink, and minute vessels were visible. The cut surface of the first lumbar segment bulged and was somewhat soft; the grey matter was pale pink. In the third lumbar there were

all spot suggesting
fifth lumbar seg
nerous vessels were
of the sacral cord
was pink

Portions from the right hemisphere, medulla, and from the cervical, thoracic, and lumbar cord were placed in 33 per cent glycerine for inoculation

first sections, taken from the cord for
o diagnosis, showed no infiltration
in 4 per cent saline formalin, was

of the central convolution This wound contains in its centre red corpuscles, a considerable number of neutrophile leucocytes, numerous

Transmission in series —It was found possible to transmit both the strains in series, and to date (Dec 20th, 1912) both have reached their third passage through the monkey In every instance a microscopic examination of the brain and spinal cord showed the lesions characteristic of acute anterior poliomyelitis The symptoms induced and pathological findings will be detailed in a future communication

Discussion —The histological changes in the central nervous system of the two patients, Cases 3 and 4, from whom the disease was successfully transmitted, do not differ essentially from other acute cases obtained this year, from the single fatal case of 1911, and from Dr Head's sporadic case of 1910 Further, they are essentially similar to those described by numerous observers in sporadic and epidemic cases, both in England and abroad The character of the illness of the monkeys, and the changes found in them on post-mortem examination, show conclusively that they were suffering from a disease similar to that of the children from whom they were infected There are certain minor differences in the histology—for instance, the greater prominence of neuronophagia in the case of the monkeys—but the differences are of degree rather than of kind It is of interest to note that the virus from Case 4 produced an almost pure polioencephalitis in its first passage in the monkey, whilst in later passages the most pronounced changes were in the cord

The failure to obtain a positive inoculation with material from Case 2 is explicable on the grounds that the patient had recovered from his attack of infantile paralysis, as is shown by the histological examination Death resulted from an intercurrent disease—diphtheria

In Case 1 the failure is more difficult to explain. The problem why material from one case of acute poliomyelitis and not from another should produce the disease in monkeys is at present occupying the attention of numerous pathologists Flexner in his Huxley lecture states that about one half of the cords of cases submitted for examination can be successfully inoculated into monkeys Roemer obtained successful inoculation in three out of five attempts, whilst Levaditi obtained three out of four

When the histological changes in Cases 1, 3, and 4 are compared, it is found that in Cases 3 and 4 the diffuse infiltration and the destruction of the cord are greater, pyknotic nuclear remnants, phagocytes, and fat-granule cells are more numerous, and neutrophile leucocytes are far fewer Comparison of the histological changes in different cases, and especially in different portions of the cord in individual cases, shows that the emigration of neutrophile leucocytes is a relatively early phenomenon, and precedes signs of profound destruction of the nervous tissue The emigrated leucocytes rapidly degenerate and disintegrate, whilst polyblasts become more numerous The fragments of

the chief sources
xtent engulfed by
ous tissue becomes
marked more polyblasts assume the form of fat-granule cells Probably, therefore, the histological peculiarities of Case 1, when compared with Cases 3 and 4, merely indicate that in Case 1 the changes in the tissue were in an earlier stage

In such a case, in which the early stage of the disease is not only indicated by the character of the histological changes but by the death of the patient within 48 hours of the onset of symptoms, the presumption is that active virus was present in the cord It has been suggested that the distribution of the virus in the nervous system may be irregular, inasmuch, therefore, as a portion of the cervical cord was alone used for inoculation the virus might thus have been missed This, however, is extremely unlikely, because the section which was taken from the portion sent for inoculation showed marked histological changes, and similar changes were present in all other sections from the cervical region Again, the failure of inoculation might be attributed to deterioration of the virus *as the result of the* cord having been kept for 11 days in the ice chest It has, however, been shown that a cord kept under similar

any weeks
the monkeys may
cord was inoculated
into three monkeys (Macacus rhesus) From observations on the experimental disease in these monkeys it is known that the use of such a number is sufficient to exclude any individual insusceptibility Again, the fact that several months later one of the three monkeys was successfully inoculated with the disease conclusively proves that at least one susceptible animal was used It is, therefore, most likely that the cause is to be found in a variation of the pathogenicity of the virus itself

In the neighbourhood of the London Hospital, as previously stated, the disease has been on the increase in late years Not only have the cases admitted to the hospital increased in number, but the records of the Pathological Institute show that there has been an increase in mortality Between 1907 and 1911 *no* case of uncomplicated poliomyelitis came *to* post-mortem examination, in 1911 three cases were examined, but in one only was the death (September) directly due to the disease, in 1912 four cases were examined, and in all

by the London Hospital

A mild epidemic appears, therefore *to* have gradually
developed from sporadic c
is not only shown by the
the cases, but by the feeb

transmitted to monkeys. The virus, unlike that which has been raised from epidemics in America and on the continent, has not yet produced a fatal disease in the monkeys.

Cases 3 and 4, therefore, occurred in a mild epidemic, whilst Case 1 was sporadic. This may be the explanation of the variation in the pathogenicity of the virus. The work of other investigators has shown that it is extremely difficult to transmit the virus from sporadic cases, whilst in epidemics transmission is successful in the great majority of instances.

We suggest, therefore, that in sporadic cases the virus is feeble, and the occurrence of the disease is due to a hypersusceptibility of the individual attacked, whilst an epidemic only results when the virus has become exalted either by a series of passages through susceptible individuals or from some other cause unknown. It seems probable that the virus has been gradually exalted during the last three years in the neighbourhood of the London Hospital, until a mild epidemic occurred in 1912. It will, therefore, be of great interest to note whether the pathogenicity increases in 1913.

We are greatly indebted to Dr. Henry Head for allowing us to publish his case, to the members of the medical staff of the London Hospital for permission to make use of the clinical notes on the patients under their care, to Dr. E. G. Fearnsides, medical registrar, for valuable assistance, and to the administrators of the London Hospital Medical College Research Fund for a grant towards the expenses.

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December, 1912.

TWO CASES OF PANCREATIC CYST.

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CASE 1.—The patient, a male, aged 19, came under my care with symptoms of intestinal obstruction. He had absolute constipation and had vomited. The abdomen was not much distended, there was no vomiting or marked tenderness, nor could a "lump" be felt. The attack had come on quite suddenly with acute pain in the epigastrium, and had been followed by vomiting. Enemata and purgatives were tried, but without effect. After four days, during which time every endeavour was made to get an action of the bowels, I decided to explore the abdomen, even though the patient did not look as ill as cases of intestinal obstruction usually do. I looked upon the case of one of enterospasm.

The abdomen was opened in the middle line below the umbilicus, and there appeared to be nothing wrong. There was no excess of fluid, no injection of the peritoneum, nor were the intestines much distended. The wound was closed and the patient taken back to bed. The next day the bowels opened quite naturally. The urine was tested twice before the operation, and no sugar was found. A day or two after the operation the patient began to complain of attacks of colic in the epigastric region. At first nothing abnormal could be felt, but the epigastrium began to swell quickly, and became tender. By the end of 10 days a definite tumour made its appearance in the epigastrium, and caused a good deal of pressure on the transverse colon. During the attacks of colic the bowel could be seen moving over the lower part of the tumour, and the colic disappeared as soon as the contents of the bowel had passed along with a gurgling sound. The urine was again tested and found to contain sugar. I then diagnosed a pancreatic cyst, and decided to open the abdomen and drain.

Sixteen days after the first operation I opened the abdomen in the middle line above the umbilicus, and over the most prominent part of the tumour. The cyst was found to be pushing its way between the stomach and the transverse colon. The general peritoneal cavity was packed off by gauze swabs, and the cyst tapped with a full-sized trocar and cannula. A large amount of thin, yellowish-coloured fluid was drawn off, full of what looked like cholesterin crystals. There did not seem to be any definite cyst wall beyond the thickened peritoneum of the lesser sac. This was sutured to the parietal peritoneum and a large bore rubber tube fixed in the cyst. The wound was sewn up to the tube.

Little need be said about the further progress of the case. Within 24 hours the fluid draining away from the cyst caused intense irritation of the skin, which was with difficulty kept within bounds. The patient made an uninterrupted recovery, the sinus taking three months to heal. The glycosuria disappeared in a fortnight. About the fourth day after the operation there was a sudden rush of bile-stained fluid from the cyst, which flooded the dressings and soaked the bed. For some time after this the discharge contained a good deal of bile. Unfortunately the full notes of this case have been lost, so that the gaps have to be filled in from memory.

CASE 2.—The patient, a lady aged 75, came under my care in December, 1911. The history obtained is as follows. The patient had an attack of acute abdominal pain about the second week in September. This lasted about four hours. There was no vomiting, and the pain was chiefly in the left hypochondrium and right iliac fossa. Shortly after this attack she began to notice that her clothes were feeling tighter round the abdomen, and she suffered from thirst. A second attack of pain occurred at the end of November, lasted much longer, and was accompanied by vomiting, and more or less intestinal obstruction for five days. This was relieved by repeated doses of calomel, and oil enemata given through a long tube. She had had some diarrhœa and what was thought to be indigestion for a few weeks before. The pain was situated in the same place as in the former attack. After this second attack there was increased thirst.

I first saw the patient on Dec. 22nd. She then looked extremely ill, the abdomen was so swollen that she was unable to fasten her clothes properly, the tongue was very dry and coated, and she complained very much of thirst. The patient found it impossible to sit in one position for a long time, and could not sit upright at all on account of the pain it caused, no doubt due to the pressure on the cyst. On the evening of the same day she had an attack of very acute pain in the abdomen, chiefly in the epigastrium. On examination, a swelling was felt occupying the whole of the epigastrium and about the size of a full-term child's head. The tumour was smooth, tense, and elastic, not very tender, and was dull over the upper part, and faintly resonant over the lower. Though the pain was evidently very acute, there was no collapse, and the pulse remained good. The acute pain lasted about three hours, but she was not quite free from all pain until the next morning. The urine was tested and found to contain sugar, 10 gr. to the ounce. There was no polyuria. I looked upon the case as one of pancreatic cyst, but on account of the patient's extreme weakness did not feel justified in advising operation. On Dec. 25th Mr. E. Deanesly very kindly saw her with me, confirmed my diagnosis, and advised no operation. He suggested a slightly restricted diet and codeia ½ gr. twice a day.

The patient gradually improved under this treatment, and though there were at times some colicky pains, she had no acute attack. The amount of sugar slowly decreased, and at the beginning of the third week in January had disappeared. The cyst gradually grew larger, and began to give trouble by pressing on the stomach or colon, I could not be certain which. During the third week in January the restricted diet began to pall and irritate the patient, who became anxious for something to be done to relieve her. As her general condition had greatly improved, and there was no longer any glycosuria, I decided to operate.

On Jan. 21st the patient was anæsthetised by Dr. E. W. Strange, a mixture of chloroform and ether being used, and assisted by Mr. A. H. W. Hunt I opened the abdomen in the middle line above the umbilicus and over the most prominent part of the tumour. The cyst was seen to be pushing its way above the stomach As the slightest attempt to get below the stomach to drain the cyst brought on the most alarming collapse, it was thought best to drain above the stomach, and finish the operation as quickly as possible After carefully tearing through the gastro hepatic omentum I tapped the cyst with a large sized aspirating needle and drew off 3 pints of chocolate coloured fluid When no more fluid would come away, the opening in the cyst was carefully enlarged, until I could introduce my finger A good deal of débris could be felt in the cyst a large quantity of it being fairly firmly adherent to the lower part of the cyst wall Some of it was removed for examination, and looked like a mixture of sloughs and old blood clot The wall of the cyst was ⅛ in thick, and seemed as if it would peel out with ease I did not try to peel it out as the patient s condition would not allow of a long operation and I was well aware of the pitfalls awaiting me should I attempt it The cyst wall was sutured to the abdominal wall, a large rubber tube fixed in and the wound sewn up

The patient stood the operation very well and had very little pain after The discharge very quickly caused intense irritation of the surrounding skin As was expected sugar appeared in the urine immediately after the operation and remained until Feb 1st On Jan 29th there was a sudden rush of a large amount of bile stained fluid mixed with mucus This was repeated about a week later and each time soaked through the dressings and flooded the bed For some time small sloughs and other débris came away when dressing the patient being brought up by syringing with hydrogen peroxide On Feb 19th a large slough 3 inches long and 1 inch broad came away The patient was allowed up in a fortnight No diabetic diet was given after the operation, and the codeia was stopped when the sugar disappeared The further progress of the case was excellent until March 8th when she was seized with an attack of acute bronchitis which nearly proved fatal Glycosuria appeared again when the bronchitis started and did not again disappear The patient was allowed out of bed on May 2nd and went away on July 11th It was unfortunate that in this case the cyst could not be drained below the stomach at its most most dependent part, as it was bound to take very much longer to fill up When the patient left there was still a long sinus present

The fluid in the first case was proved to contain pancreatic secretion but I have not the report by me The reports on the second case I append and were made by the Clinical Research Association —" The fluid is of a dark colour, it is faintly alkaline, has a specific gravity of 1010 and an albumin content of 0 7 per cent There is no evidence of proteid digestion or fat splitting but there is conversion of starch The centrifugalised deposit is considerable in amount, and consists of many blood discs a small number of leucocytes an occasional epithelial cell and much fat débris part of which occurs as neutral fat and in fatty acid crystals The specimen is non purulent in character but a fair number of Gram negative bacilli are seen to be present On culture these are coliform in type "

The report on the piece of débris is —" This material is far too necrosed for a definite opinion to be given We feel morally certain, however, that it is pancreatic tissue There are many areas which suggest fat necrosis and some parts suggest outlines like those of pancreatic acini There are many masses of cells filled with blood pigment and in the centre there is a fibrous nodule containing a duct It is difficult to see why so large a fibrous mass should form round a pancreatic duct but that is clearly the suggestion There is no evidence of malignant growth

The first case was undoubtedly a pseudo cyst the attack simulating intestinal obstruction being caused by the rupture of an old cyst into the closed lesser peritoneal sac I did not drain directly the cyst but the lesser sac The second case I look upon as a true pancreatic cyst There seemed to be a definite cyst wall ⅛ in thick which would have peeled out to some extent at least with great ease—not what would be expected of the peritoneum of the lesser sac

The etiology of the second case I take to be as follows A large retention cyst had formed as the result of chronic pancreatitis The fibrous nodule round a duct seen under the microscope suggests the chronic pancreatitis The attacks of acute pain were caused by hæmorrhages into this cyst, while the attack at the end of November was one of acute pancreatitis most probably hæmorrhagic involving that part of the pancreas to which the cyst was more directly connected There had no doubt been some very acute pancreatic mischief, or how are the sloughs to be explained? I do not think that the acute pain on the evening of Dec 21st was caused by another hæmorrhage, as the cyst was not more tender than it had been and the pulse never failed in the least There was however, every reason for a hæmorrhage at that time as the patient had been a railway journey of 70 miles that day

Both patients at the present time are doing very well, though the second case still has a sinus and a slight amount of glycosuria

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TWO CASES OF PANCREATIC CYST WITH ACUTE SYMPTOMS

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CYSTS in connexion with the pancreas are not in themselves very uncommon, the onset of acute and urgent symptoms as the first indication of the presence of such cysts is however of sufficient rarity to warrant a note on two such cases which have recently been under my care at St George s Hospital

CASE 1 —The patient a female aged 46 was admitted into St George's Hospital on Sept 24th 1911 and gave the following history For three weeks she had had abdominal pain of a spasmodic character, this at first was not severe, and was mainly referred to the navel, later it became more marked, and for the four days prior to admission had been almost continuous and had shifted to the right hypochondriac region In addition to the increased severity of the pain there had been also almost incessant vomiting of bile stained fluid in small quantities and absolute constipation for five days Her health had previously been excellent; there had been no jaundice The only previous medical history of any importance was that of a somewhat doubtful abdominal injury some 20 years previously

On examination the patient was an extremely well-nourished woman The expression was anxious and she was clearly in pain, at frequent intervals small quantities of bile were vomited The tongue was furred, temperature *100° F* and *pulse 104* *The abdomen showed considerable* general distension but moved well, on palpation an extremely tender rounded swelling could be felt somewhat below and immediately to the right of the navel This was quite localised and fixed, it was dull to percussion, with an area of resonance above and below it The size of the swelling was roughly that of a man s fist The remainder of the abdomen showed no abnormality apart from some general tenderness As enemata produced no result and the symptoms persisted operation was decided upon four hours after admission

Operation — A three inch incision was made over the centre of the swelling through the outer border of the right rectus, on opening the peritoneum a small amount of free fluid escaped, there was no peritonitis The swelling was found to be a tense retroperitoneal cyst presenting below the transverse mesocolon and apparently of pancreatic origin After packing off the intestines with gauze the cyst was incised and 45 oz of dark brown fluid were evacuated At the bottom of the cyst a hard rounded body of the size of a walnut was found and removed, this proved to be composed of layers of dried blood clot A large drainage tube was then sewn into the cyst and the abdominal wall partly closed, a gauze plug was also left in below the tube The fluid from the cyst was deeply blood stained and contained a large amount of albumin the reaction was alkaline Trypsin was present in considerable quantity, as well as a diastatic ferment

The urine passed before the operation contained a trace of albumin and also gave a faint reduction with Fehling s solution, this reduction persisted for about four weeks and then disappeared, the urine at the present time is quite normal

The patient made a good recovery from the operation, and apart from some irregular pyrexia, for which no cause could be found, showed no untoward symptoms. The discharge from the cyst was at first very profuse, as much as five pints being collected in the 24 hours; later the amount diminished to a considerable degree, but the sinus showed no sign of closing. No trypsin could be found after the first three weeks, and the skin around the sinus remained healthy throughout. On Jan. 11th, 1912, she was sent to the Atkinson Morley Convalescent Hospital; the discharge still persisted and at times was blood-stained. On Feb. 20th a considerable amount of hæmorrhage occurred from the sinus, which had a small short tube in it; three days later very severe hæmorrhage occurred, which could not be controlled, and she was accordingly readmitted into hospital.

The patient then showed signs of severe hæmorrhage, with extreme pallor, restlessness, sweating, and a small, rapid, very feeble pulse. It was obvious that an immediate attempt would have to be made to check the bleeding. Accordingly, under intravenous ether anæsthesia, administered by Dr. J. Blumfeld, the cyst was freely exposed and completely marsupialised by means of stout silk ligatures; the shallow cavity was packed with gauze wrung out in 1 per cent. formalin. The bleeding was apparently coming from the granulations covering the surface of the cyst cavity, and not from any large vessel, as had been feared. The patient made a rapid recovery from the effects of the hæmorrhage, and the discharge from the cyst gradually diminished; it has, however, never quite ceased and still persists to the extent of about half an ounce a day from a tiny sinus. The woman's general health is excellent, and she has been doing her household work for the last nine months.

CASE 2.—The patient, a boy aged 14, was admitted into St. George's Hospital on June 9th, 1912, with the following history. Four weeks previously, as the result of a fall across a gate, he injured his left side, fracturing two ribs; in addition to the fractures some grave intra-abdominal injury was also suspected, as for a time he was profoundly collapsed. No further symptoms developed, however, and in about ten days he appeared to be in good health again. About a fortnight later he began to complain of pain in the left hypochondrium, with nausea and vomiting at times; no local physical signs could at first be found to account for this, but some days later a swelling was detected beneath the ribs on the left side. On the day of admission this swelling, which previously had remained stationary in size, was noted to have become very much larger, and the general symptoms became grave. There had been no previous illness of any note, and the boy's general health had been good.

On examination the boy looked extremely ill; the skin was cold and clammy, the tongue dry and furred; temperature 100° F., pulse 120. The abdomen showed slight general distension, with impaired movements and some bulging in the left hypochondrium To palpation the parietes were resistant, and pain was complained of, especially over the bulging area, where a rounded tumour could be felt. This tumour was fixed and quite dull to percussion all over; the dulness also extended upwards as high as the sixth rib in the mid-clavicular line; the tumour did not fill the loin and could not be obtained bimanually; there was no movement on respiration. A small amount of free fluid could be detected in the right flank. There were no abnormal signs in the chest and the apex beat was not displaced upwards. An examination of the urine made before the operation showed no abnormality, except what was then thought to be a very doubtful faint reduction of Fehling's solution.

Operation.—A 4-inch incision was made through the upper part of the left rectus. On opening the peritoneum a quantity of thin, blood-stained fluid escaped; the visceral peritoneum was found to be deeply injected, and the intestines were markedly distended. An examination of the great omentum revealed numerous small spots of fat necrosis; a small piece of omentum removed for microscopical examination confirmed this diagnosis. On further investigation the swelling was found to be a tense retroperitoneal cyst which was presenting above the transverse mesocolon, and over the surface of which the stomach was tightly stretched; the transverse colon was displaced downwards into the lower part of the abdomen. As it did not seem possible to approach the cyst from above, the transverse colon was drawn upwards over the swelling and the mesocolon incised, exposing the lesser sac and the under surface of the cyst, which partly obliterated this cavity, but was situated behind it. On incising this cyst three pints of blood-stained fluid escaped; a large drainage-tube was then sewn into the opening, and the abdominal incision was closed. The fluid from the cyst was practically identical with that found in Case 1, and contained a large amount of trypsin. Further examination of the urine showed a definite trace of dextrose estimated at 0·25 per cent.; this disappeared after the eighteenth day, and has never been found since in repeated examinations.

A large amount of fluid drained away for the first few days, the discharge then diminished, and the wound had entirely healed in three weeks. There was a considerable amount of distension, with flatulence and hiccough for the first four days; this was overcome by the use of turpentine enemata and eserine sulphate given hypodermically in 1/100th gr. doses. Apart from the distension no untoward symptoms developed, and the boy at the present time is in good health.

Remarks.—In the majority of cases cysts of the pancreas, whether arising spontaneously or as the result of an injury, are not associated with acute symptoms, but are somewhat insidious in their course. The interest of these two cases lies mainly in the acute nature of the symptoms, and the difficulty of making a diagnosis before operation.

In the first case a tentative diagnosis of appendicitis, with abscess and partial obstruction from adhesions, was made. The difficulty in this case was increased by the obesity of the patient, which is not common in pancreatic disease, and apart from the somewhat high position of the swelling, the symptoms and signs markedly resembled the above condition. At the operation no definite pathological condition apart from the cyst could be found, and presumably the pain and obstructive symptoms were due to pressure produced by the rapid enlargement of the cyst.

In the second case the history of comparatively recent injury of a severe nature made several diagnoses possible. From the position of the swelling extending high up under the costal margin, and from the presence of free fluid in the peritoneal cavity with signs of a diffuse peritonitis, a partial rupture of the spleen, with recurrence of the hæmorrhage and leakage into the general peritoneal cavity from this cause, was suspected. The operation showed that the acute symptoms and the free fluid were due to leakage from the cyst producing a diffuse peritonitis with fat necrosis similar to that found in cases of acute pancreatitis. Under the circumstances it is remarkable that the peritoneal symptoms disappeared so rapidly after operation.

The examination of the urine, in each case performed before the operation, revealed a faint reduction of Fehling's solution, but this reduction was so slight that at the time it was ignored; later investigations showed that the reduction was due to dextrose, as proved by fermentation tests. The importance of the presence of a reducing body was not apparent till operation, and if it had been realised it is possible that a more satisfactory diagnosis might have been made.

The pathology of the cysts necessarily cannot be absolutely determined; in all probability they were in both cases examples of the prepancreatic type of cyst—i.e., they were situated behind the posterior parietal peritoneum in front of the pancreas, which formed part of the posterior wall of the cyst. There is no doubt that they were not so-called cysts of the bursa omentalis, since the cavity of the lesser sac was free in each case. The presence and persistence of pancreatic ferments in the cyst fluid afford further proof of an intimate connexion with the gland.

The recent injury in the second case was undoubtedly the cause of the condition. In the first case the injury was so remote that it can hardly be regarded as the causative agent; that the cyst had been present for a long period is made probable by the presence within it of the laminated blood clot forming a blood ball.

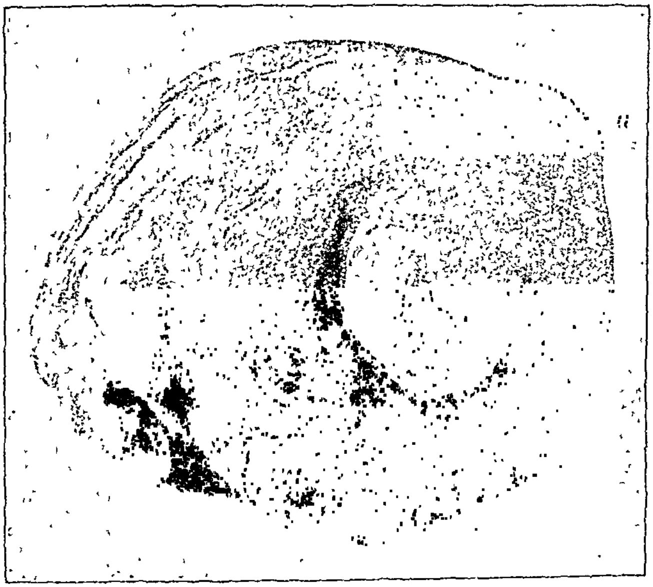
Complete "marsupialisation" of the cyst was practically impossible in both cases in the first instance; it was successfully performed at the second operation in the first case, and it is certain that if it could have been performed at the first operation the severe hæmorrhage which occurred might have been avoided.

South-street, Park-lane, W.

LARGE RENAL CALCULUS ASSOCIATED WITH SARCOMA OF THE KIDNEY.

BY DOUGLAS DREW, B.S. LOND., F.R.C.S. ENG.,
SURGEON TO THE HOSPITAL FOR WOMEN, SOHO.

THE following is a brief account of the patient's illness. A married woman, aged 46, was admitted to the Hospital for Women, Soho, on July 19th, 1912, in a very emaciated and feeble state; she stated that she had been gradually getting thinner and weaker for six months, and had suffered much with pain in the right side, but had continued to work until a fortnight before admission. The swelling in the abdomen had been noticed for three months, and on several occasions blood had been passed in the urine. On admission the right side of the abdomen was occupied by a large tumour extending from beneath the ribs down to the pubis; the anterior edge extended rather beyond the middle line; it was uniformly hard, smooth, and very tender. The total quantity of urine varied between 28 oz. and 40 oz., and usually contained a small quantity of pus and a little blood. The temperature varied between 99° and 102·6° F. No X ray examination was made, as the patient was too ill to be moved out of bed for the purpose.



Large phosphatic renal calculus, weighing 14¾ oz. when wet, and 11 oz. when dry. (Natural size.) *a*, Ureteric end.

On July 31st the tumour was explored through the usual oblique incision in the loin. At the posterior part of the wound it was found that the tissues were inflamed and very adherent to the kidney, while at the anterior part there was a soft mass of deep reddish-purple colour suggestive of a growth. A trocar was inserted into the organ, and a quantity of creamy pus evacuated. The stone was found tightly wedged into the pelvis of the kidney, and considerable difficulty was experienced in delivering it through the wound owing to its size. After its removal several handfuls of what appeared to be broken-down blood clot were removed from the pelvis of the kidney. I have no doubt, in the light of subsequent events, that this material was in reality necrotic growth filling the pelvis. The patient's condition was so unfavourable that a primary nephrectomy was out of the question, so a gauze plug was inserted to check some free oozing, together with a drainage-tube, and the patient was returned to bed. For a few days after the operation the patient appeared to be progressing satisfactorily, the temperature fell to normal, and she expressed herself as feeling much better; but by August 9th it was obvious that she was failing, and she died on the 15th.

The calculus weighed 14¾ oz. in the wet state; it was of a rounded shape and measured 10 in. in one circumference and 9½ in. in another. On one side there were five truncated processes where it fitted into the calyces, and on the opposite side was a nipple-shaped process corresponding to the ureter (see figure). It was of soft phosphatic material and thickly coated with soft débris; it closely resembled in size and shape an average-sized clenched fist.

Necropsy.—The whole of the right half of the abdomen was invaded by semi-solid necrotic material, which was shut off from the abdominal cavity by peritoneal adhesions. The area of invasion extended from the under surface of the liver to Poupart's ligament; the cæcum and ascending colon were pushed over towards the middle line. On clearing away this breaking-down tissue the remains of a large disorganised kidney were found, which was so firmly fixed to the surrounding structures that it could only be separated from the vertebræ and iliac fossa by using the knife. The other abdominal organs were normal, and there were no secondary growths; the left kidney was about twice the usual size, but otherwise appeared normal. The remains of the kidney showed a dense fibrous wall which on section was composed of fibrous tissue with yellow areas; the outline of the calyces was visible, and the pelvis was greatly enlarged and the wall thick and fibrous.

I am much indebted to my friend, Dr. T. G. Stevens, for examining the specimen and giving me the following report of the microscopic structure of the wall of the kidney and of the soft necrotic tissue which was so abundant: "Section from the dark brown, soft material. This is too degenerate to yield any definite result, but it is evidently cellular and composed of necrosing growth. The other section, made from the dense fibrous tissue with yellow areas and soft white growth, is better preserved, and shows that the growth in the main has the characters of a large spindle sarcoma; the yellow areas are patches of hæmorrhagic and necrotic growth. Remnants of renal tissue with tubules and glomeruli are found in the dense fibrous wall."

Remarks.—Renal calculi of such large dimensions are extremely uncommon, as the condition usually causes a pyonephrosis long before such a size is reached. Marmaduke Sheild has recorded a case in THE LANCET* which weighed 1 lb. 9 oz. in the wet state, and 1 lb. ½ oz. when dry; and he pointed out how slight the symptoms had been, although the calculus must have been present for a long time. It was the same in the case now recorded; the patient actually continued at her work until a fortnight before admission to the hospital. I have recently seen an X ray photograph of a remarkable case, which was under the care of Hurry Fenwick, of two stones in the same kidney which weighed after removal by operation 1 lb. 12 oz. when dry. In the case now recorded the stone weighed 11 oz. when dry.

The onset of the sarcoma probably dated from shortly before the appearance of the tumour. I have been unable to find any record of a sarcoma arising in a kidney so affected; it is not unreasonable to suppose that the irritation of the stone in some way brought on the growth.

Wimpole-street, W.

NOTE ON A CASE OF BENCE-JONES PROTEINURIA.

BY JOHN HENDERSON, M.D., CH.B. GLASG., F.R.F.P.S. GLASG.,

ASSISTANT PHYSICIAN, ROYAL INFIRMARY, GLASGOW; ASSISTANT TO MUIRHEAD PROFESSOR OF MEDICINE, GLASGOW UNIVERSITY.

THIS note refers to a case of which I published the clinical details some time ago in THE LANCET.[1] The detailed laboratory investigation of the urine took up considerable time, and thereafter there was unavoidable delay in the publication of the laboratory findings,[2] hence the somewhat belated nature of this communication.

It may be as well to recall the main points of the case. Clinically the striking features were the anæmia, cachexia, and wasting, with, in addition, an unusual urinary condition. The diagnosis was doubtful. The presence of malignant disease was at first suspected, but careful and repeated examination of the patient failed to detect any evidence of it. There was, further, no evidence of disease of the bones. The blood picture was that of a fairly severe secondary anæmia. The case was regarded as one of chronic nephritis of some standing, and probably of the "diffuse" variety, accompanied by a considerable degree of anæmia. The patient, unfortunately, decided to return to his own home in the country, where he died, and no post-mortem examination was obtainable. For the purpose of further urinary investigations, however, several litres of his urine were obtained and preserved in presence of chloroform and thymol.

The urinary condition was shortly as follows. In all the specimens examined the colour was pale amber, and the reaction distinctly acid. The specific gravity averaged about 1015. The daily excretion of urine varied between 1500 and 2000 c.c. The average acidity, as estimated by the *Folin* method = 28 c.c. N/10 NaOH per 100 c.c. Total protein, as estimated by Esbach's method, excreted in 24 hours varied between 15 and 20 grm. When the urine was subjected to the ordinary heat test for albumin an abundant white and rather curdy precipitate was at once obtained well below boiling point. This did not dissolve when boiling point was reached, though there was a partial solution. It, however, completely dissolved on the addition of a drop of 10 per cent. acetic acid. On contact with nitric acid in the cold a copious white precipitate was obtained, which disappeared on warming and reappeared on cooling.

It was at once apparent from these tests that one had to deal with a protein other than ordinary albumin and globulin. In an ordinary albuminous urine the coagulation point may be placed somewhere about 70° C., and the coagulum shows no tendency to disappear on raising the temperature to boiling point. In the present case coagulation began in the urine at 52·5° C., and was complete at 58° C. On raising the temperature it apparently partially returned to solution.

Positive results were obtained with all the ordinary tests for protein: biuret (marked), Liebermann (marked), Millon and tryptophane reactions. Molisch's reaction was very doubtful. The usual blackening was obtained on boiling the urine with lead acetate in alkaline solution.

The protein was precipitated by all the ordinary reagents which precipitate proteins. It was fully precipitated on half saturation with ammonium sulphate, but gave only a slight haze when half saturated with sodium or magnesium sulphate. With alcohol its reaction was unusual, as the usual precipitate in the cold readily dissolved on warming, to reappear on cooling. For further investigation a large quantity of urine was precipitated by means of half saturation with ammonium sulphate and filtered. The precipitate was dialysed against running water, and the products obtained behaved quite as in the original urine. The precipitate was dialysed for a further nine days till free from salt, and it again showed the same properties. The dried substance was obtained in three different ways, viz.:—

1. From the dialysed ammonium sulphate precipitate, by precipitation with alcohol, filtering, then drying. The material was powdered, and on combustion gave a mere trace of ash. It was sparingly soluble in either cold or hot water, but rather more soluble on grinding it up with 1 per cent. sodium chloride solution. It was more readily soluble in acid solutions.

2. From the heat precipitate. This precipitate browned in the air, becoming quite a deep brown in 12 hours. It was dried in vacuo over sulphuric acid. It was not readily soluble in water and dilute sodium chloride solution, though much more soluble in mineral acids. Both this and the preceding preparation slowly dissolved in the cold in 2 per cent. caustic soda or potash. Both dried substances were insoluble in either cold or hot alcohol in all concentrations. Their coagulation point in aqueous solutions was found to be about 56° C.

3. From the dialysed material by evaporation to small bulk in vacuo at 40° C., then drying over sulphuric acid. This form was much more soluble in cold distilled water. Its coagulation point in aqueous solution was 58° C., though slight hazing was observed at 55° C. In other respects it resembled the previous dried substances.

Further investigations were suggested by an extremely interesting paper by Hopkins and Savory[3] on the Bence-Jones protein. They dealt with its relations to variations in reaction and of the salt concentration of the fluid in which it was dissolved. They showed that the characteristic solubility at 100° C. of the heat-coagulated protein was due largely to the influence of electrolytes in solution. This solution was in all probability brought about by the formation of a molecular compound betwwen protein and salt, a compound which was more stable at temperatures near 100° C. than at lower temperatures. They also showed that the solvent power of a salt in neutral solution rose with increase in valency in either its acid or basic constituent, and, further, that with the increase in valency in the acid or basic constituent of a salt the solvent capacity showed also a greater relative increase than does the aggregative (coagulative) power.

Extensive investigation along these lines with the substance obtained in the present case revealed the fact that it behaved in a very similar fashion to that described by Hopkins and Savory. Owing to the scantiness of the available material, however, it was found to be impossible to test all the salts used by these workers. The influence of the three potassium phosphates was tested in the hope that the results might prove of additional value, as the variation in urinary acidity is usually ascribed to variations in the mono- and di-acid phosphates, though Folin denies that these phosphates act in this way. It was further hoped that it might afford some explanation of the variations obtained by different workers in the reactions of the Bence-Jones protein, or allied bodies, in the urine. Very marked variations, however, were obtained, and from these points of view the results were disappointing.

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* THE LANCET, Oct. 15th, 1904, p. 1074.

[1] Henderson: THE LANCET, April 16th, 1910, p. 1069.

[2] Cathcart and Henderson: Journal of Pathology and Bacteriology, vol. xvii., 1912.

[3] Hopkins and Savory; Journal of Physiology, Cambridge, 1911, vol. xlii., p. 189.

When I published the clinical history of this case, and the urinary investigations carried out, the conclusion had then been arrived at that the substance present in the urine was [illegible] tein, but one allied to it, as, [illegible] blance, it exhibited certain [illegible] protein hitherto described. Since the publication of the work of Hopkins and Savory on this subject, and the confirmatory tests applied in the present case, this protein is now regarded as identical with the substance investigated by these writers. The slight differences found may almost certainly be ascribed to differences in the physical character of the solutions. I now, therefore, place this case on record as one of Bence-Jones proteinuria.

I have again to thank Professor D. Noël Paton and Dr. E. P. Cathcart, Glasgow University, for the facilities afforded for this investigation and for their guidance and help throughout.

Glasgow.

PTOMAINE-PRODUCING BACTERIA IN THE HUMAN INTESTINAL FLORA.

BY D. M. BERTRAND, M.D., Sc.L. PARIS;

AND

A. BERTHELOT, M.D., Sc.L. PARIS.

(From the Metchnikoff Laboratory in the Pasteur Institute, Paris.)

TWO years ago Dr. Ackermann[1] succeeded in obtaining from histidine by putrefaction a base which has been identified with β-imidazolethylamine prepared at first synthetically by Windauss and Vogt.[2] Since then G. Barger and H. Dale[3] in England, and Kutscher[4] in Germany discovered this amine in ergot, where it is one of the most active principles. The physiological action of β-imidazolethylamine has been fully studied by H. Dale and P. Laidlaw[5] in rodents and carnivora; they noted that a dose of 0·5 mgm injected in the external saphenous vein of a large guinea-pig (about 900 grm.) caused death quickly with symptoms very similar to those obtained in anaphylactic shock. They killed a medium-sized rabbit by injection of 4 mgm. in the ear vein, with the same symptoms. With subcutaneous injections of larger doses the rate of respiration was increased, and then occurred defæcation and micturition, with prostration and some degree of narcosis; gradually recovery took place. In the cat an injection into the long saphenous vein of 2 to 10 mgm. caused vomiting, salivation, and defæcation, and at the same time the respiration became laboured, the animal showing signs of prostration and light narcosis with constriction of the pupils. Same action with bigger doses injected subcutaneously; recovery set in gradually.

We experimented on the same animals with hydrochloride of β-imidazolethylamine prepared by the action on histidine of putrefactive bacteria, for which we are indebted to the kindness of F. Hoffmann-La Roche, and had exactly the same results. We tried then to note the physiological action of this amine in monkeys (Macacus sinicus and Macacus cynomolgus), weighing 1100–1300 grm., by intravenous injection into the posterior saphenous vein.[6] The effects obtained with these monkeys were very similar to those obtained with the carnivora—that is, vomiting and diarrhœa, profuse salivation, and a well-marked respiratory impediment. The lethal dose was 65 mgm.—that is, about 50 mgm. per kilo of animal. The monkey showed the ordinary symptoms, more marked; then followed a full paralysis of the posterior limbs, and after a while of the anterior ones; at the same time spasmodic contraction of the diaphragm. The animal was sprawling, the head sank on the table, and it died in 20 minutes. Post mortem the lungs were found distended; the heart stopped in diastole.

Barger and Dale[7] isolated β-imidazolethylamine from intestinal extract, and they thought that this ptomaine in the intestinal mucous membrane could be due to the resorption of the base produced in the intestinal digestion by the action of some kinds of bacteria on histidine set free by enzymic or microbial hydrolysis of proteins. Control of this hypothesis being valuable in man to throw some light on the pathogenesis of different symptoms of so-called auto-intoxication, we tried to isolate from human stools bacteria able to produce β-imidazolethylamine or β-imidazol-α-amino-propionic acid. With the ordinary technique of isolating bacteria it would have been very difficult to get from intestinal flora micro-organisms with such a specificity of biochemical action; but we succeeded rather easily by the general technique to isolate the aminolytic bacteria that we suggested during the last year.[8] In this case we used a selective [illegible] K_2SO_4 0·20 grm., $MgSO_4$ 0·2[illegible] 0·25 grm., $CaCl_2$ 0·02 grm., [illegible] ·50 grm. Using the physiological properties, so characteristic of β-imidazolethylamine, we studied at first the toxic action of the pure cultures on histidine of the different microbes we succeeded in isolating by this way. Injected intravenously into guinea-pigs, all but one of them showed the characteristic symptoms of acute intoxication by the amine, death ensuing in a few minutes.

Though the toxicological examination of these cultures on histidine was rather convincing of the presence of β-imidazolethylamine, we tried to identify the base; for this we added ten volumes of alcohol to the toxic fluid, which produced a precipitate we separated by filtration. The filtrate was evaporated until a dry residue remained, which was dissolved in water, rendered isotonic, and then injected in the vein of a guinea-pig; death ensued with ordinary symptoms. The toxic substance was soluble in alcohol and was probably of the nature of an alkaloid. Not considering this proof sufficient, we tried to extract β-imidazolethylamine. All the culture media on histidine were treated by the process described by Ackermann.[10] At last, a picrate crystallised, melting at 237° C., and the yellow crystals were quite similar to those of the chemically pure amine. This salt was decomposed to give a hydrochloride, soluble in water, which gave an intense reaction with p. diazobenzene sulphonic acid, characteristic reaction of *histidine and closely related* derivatives. The same solution injected in the vein of a guinea-pig caused death in a few minutes with the peculiar symptoms observed with this pure base.[11]

We then carried out a complete study of this micro-organism, which, by its morphology and general cultural characters, is very nearly related to the bacillus of Friedländer and bacillus lactis aerogenes—that is, Gram-negative, capsulated bacillus, with a well-marked action on a great [illegible] group, has no proteolytic action, but a peptolytic one; it does not produce indol nor phenol from tryptophane or tyrosine. But its biochemical action on amino-acids, compared with those of different strains of bacillus of Friedländer and B. lactis aerogenes from the Pasteur Institute collection, or isolated by ourselves, is much more marked; its affinity for organic substances containing nitrogen is so special that it can be separated from them and be called bacillus aminophilus intestinalis. Neither Friedländer bacillus nor B. lactis aerogenes, indeed, sowed in histidine media, were able to produce β-imidazolethylamine, and their aminolytic properties are far less great. Probably it may be possible to obtain by subcultures in appropriate media organisms having this aminophilic character peculiar to this strain.

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[1] Ackermann: Zeitschrift für Physiologische Chemie, lxv., p 504, 1910.

[2] Windauss and Vogt. Berichte der Deutschen Chemischen Gesellschaft, xl., p. 3691, 1907.

[3] Barger and Dale: Proceedings of the Chemical Society, xxvi, p. 128, 1910; Journal of Physiology, xl. (Proceedings of the Physiological Society, p. xxxviii., 1910).

[4] [illegible]

[5] [illegible]

[6] A. [illegible] des Sciences, [illegible]

[7] Barger and Dale: Journal of Physiology, xli, p. 499, 1910–11.

[8] A Berthelot: Comptes Rendus de l'Académie des Sciences, July 24th, 1911.

[9] A. Berthelot and D. M. Bertrand: Comptes Rendus de la Société de Biologie, July 29th, 1911.

[10] Ackermann: Loc. cit.

[11] A. Berthelot and D. M. Bertrand: Comptes Rendus de l'Académie des Sciences, June, 1912.

When this microbe is grown in a nutrient medium containing per litre of water PO_4HK_2 2 grm., $MgSO_4$ 1 grm., and minute quantities of $CaCl_2$ it grows perfectly well, when nitrogen is provided by KNO_3, $(NH_4)^2 SO_4$, NH_4NO_3, or succinate of ammonium. It is able also to get carbon and nitrogen necessary for its life from glycocolle, cystin, tyrosine, tryptophane, alanine, leucine, histidine, glutamic acid, aspartic acid, and phenylalanine. Many other substances than amino-acids are destroyed by this B. aminophilus intestinalis, and so we remarked that all the following bodies may provide it with nitrogen and carbon or nitrogen only when carbon is furnished by glucose: oxamide, urea, urethane, guanidine, creatine, asparagine, glucosamine—piperidine, collidine—allantoine, alloxane, caffeine, morphine, quinine, pilocarpine, hordenine—ethylenediamine, tetramethyl enediamine, p. oxyphenylethylamine, imidazolethylamine—amygdaline—glycyltyrosine, pentaglycine, luceylglycine. As it can split off carbon dioxide from histidine to give β-imidazolethylamine, we studied carefully its action on tyrosine and tryptophane, from which amino-acids it produces p. oxyphenylethylamine and indolethylamine by the same process.

We have seen, then, that this B. aminophilus intestinalis gives β-imidazolethylamine from histidine when it gets its nitrogen from peptone or a mixture of mono and diamino-acids obtained by hydrolysis of casein, but it is quite impossible to find a minute quantity of this amine when nitrogen is provided by a mineral salt of ammonium. When the nutrient medium is composed of histidine and the ordinary mineral salts without any nitrate, it is impossible to find imidazolethylamine in the cultures, but from these media we were able to obtain imidazolpropionic acid. In peptonised culture media with histidine the microbe produces β-imidazolethylamine, which does not disappear if it is left for a week or more in the 37° incubator; the ptomaine is destroyed when it is the sole substance in the medium able to provide the micro-organism with the nitrogen and carbon necessary for its life.[12]

From all these facts we may conclude that this B. aminophilus intestinalis has well-marked saccharolytic and aminolytic properties. Varying the different nutrient substances with the exception of the amino-acid, the micro-organism may remove the carboxyle group; when this amino-acid is the only substance containing nitrogen and carbon, it is able to show both properties at the same time. We have seen, indeed, that it can get its nitrogen and carbon from various organic molecules. As this micro-organism splits off carbon dioxide very easily from amino-acids in various conditions of media, it seems possible then, to try to supplement the few ideas we have at present on the production of ptomaines in the intestinal tract and to study their acute and chronic action in the human organism.

We succeeded in obtaining from human fæces two other bacteria, one of them rather different from this B. aminophilus intestinalis formerly studied, which micro-organisms can produce imidazolethylamine by the same process. It was, indeed, very probable that this B. aminophilus was not the only one in the intestinal flora able to produce such an action. These micro-organisms have only been isolated from patients suffering from chronic auto-intoxication with some intercurrent intestinal disorder.

The point particularly interesting is that it has always been impossible to get a growth from fæces of people enjoying very good health, exactly as happened in the cases where we isolated formerly "tyrosinolytic" bacteria.[13] We may conclude that by the very simple technique we proposed more than a year ago we have been able to isolate from the human intestinal tract micro-organisms capable of producing a very active base—namely, β-imidazolethylamine—from histidine; further, its isolation does not require more than three days, and frequently we can obtain a pure culture in less than 48 hours.

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[12] A. Berthelot and D. M. Bertrand: Ibid., July, 1912.

[13] A. Berthelot and D. M. Bertrand: Ibid.

British Red Cross Society.—The annual meeting of the County of London branch of this society will be held at Grosvenor House, Upper Grosvenor-street, W. (by permission of the Duke of Westminster), on Friday next, Feb. 28th. Viscount Esher will take the chair at 4 o'clock.

THE THERAPEUTIC ACTION OF SPLENIC EXTRACT

AND ITS APPLICATION IN THE TREATMENT OF TUBERCULOSIS.

By HENRY R. HARROWER, M.D.,

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The original work of Dr. Charles Bayle,[2] of Cannes, France, has stimulated my interest in the use of spleen substance or extract in tuberculosis, and while the literature on this subject is still very meagre, a limited personal experience, coupled with that of several correspondents in the United States, France, Italy, and Russia, convinces me of its importance. Since tuberculosis is essentially a wasting disease, a vital part of its treatment is the attempt to increase the nourishment of the body, thereby enhancing its resisting powers. Hitherto this has been attempted by careful attention to diet and, in many cases, a *régime* which has come to be termed "hyperalimentation." I certainly believe that fully as much harm as good has been accomplished by the extremes of feeding that have resulted. Toxæmia due to putrefying proteid has frequently undone much of the good that the other treatment may have accomplished; and while in some cases benefit has been derived from the increased food ingested, many others have suffered inconvenience and disadvantage from the resulting indigestion.

For nearly nine years Bayle has used spleen preparations in tuberculosis, and in his latest communication,[6] which was read before the International Congress of Tuberculosis at Rome, April, 1912, he concludes:—

> I feel authorised by my results to call splenic opotherapy a specific treatment for tuberculosis. It is specific from the therapeutic viewpoint because it modifies the soil, rendering it less suitable as a medium for the culture of the bacillus of Koch. It is specific from the practical viewpoint because it manifests all the function and rapidity of action of a specific medication. Employed in convalescents it prevents tuberculosis by increasing the mineral content of the tissue *(en reminéralisant le terrain)*. Employed in confirmed cases of tuberculosis it cures them.

In an earlier communication[5] Bayle refers to "150 cases *treated by me in which I have noticed 146 showing the* unquestionable and rapid effects of the treatment. Among those which I have been able to follow a sufficient length of time to acquire some conviction I note 75 per cent. of cures, some of which were in a very advanced stage and regarding whom I had no hope to begin with."

In no disease have so many and such varied remedies been recommended as in tuberculosis, and the mere number alone is evidence of their unsatisfactory results. Time and again our hopes have been raised, to be as frequently rudely dashed to the ground. One therefore accepts with considerable reserve such enthusiastic statements, no matter how thoroughly they may be backed up by clinical results. While many have considered Bayle's experiences as "too good to be true," there is no doubt that a more general trial of spleen preparations in tuberculosis will be both interesting and profitable.

Unfortunately, the most recent books on the internal secretions—notably the exhaustive monograph by Biedl[10]—make no reference whatever to the internal secretions of the spleen; and Swale Vincent[41] gives this subject only four lines in his new book. In fact, opinions on the subject have been so difficult to obtain that the results of my researches in the literature have been collated here. Possibly these eminent writers have omitted to refer to the spleen because it is not really a glandular organ, and is not presumed to have any other than its well-known hæmopoietic function. Other investigators have expressed their doubt as to the hormone-producing powers of the spleen. Professor Osborne,[34] of Yale University, says:—

> From a histologic standpoint and from the standpoint of what is known of the physiolog[illegible] fact than man and animals can live after t[illegible]. It seems doubtful if this organ furnishes [illegible].
>
> When the spleen is removed, the lymph glands do its work. After such removal there is an increase of the lymphocytes in the blood and a decrease of red corpuscles, as well as a reduction of the hæmoglobin, but in a few weeks the blood becomes normal.

Histologically the spleen cannot be included with the glands or ductless glands, as its structure does not consist of epithelial cells

Hutchison, in his Goulstonian lecture,[26] mentions the following functions of the spleen —

[illegible]

Hutchison further emphasises his belief in the limited view of the splenic functions in his excellent little book on physiology, in which he says[27] —

[illegible]

And this in spite of the experiments of Herzen, Bellamy, and a dozen others, reference to which will follow

It is believed by some, however, that the spleen produces certain secretions which, like those of the thyroid adrenal, or pancreas are passed directly into the blood to influence both the producer's own function and that of organs remote from it From the experimental work which has been done one gathers that the above statements of Osborne and Hutchison, together with the presumed opinions of authors already referred to are incorrect

The earliest discovery of the influence of the spleen on the pancreatic function was by Professor Schiff[42] His original ideas however, were faulty, and to his successor A Herzen,[13] professor of physiology at the University of Lausanne, must be given the credit of having definitely settled this question His experiments were most convincing, and proved that the spleen acts as a tryptogene by means of some unknown substance which it proliferates and which is carried by the blood to the pancreas This work has been duplicated by his associate Bellamy, whose experiments at Lausanne corroborated Herzen's ideas of the relations of the spleen and pancreas He concludes that[8] "the inactive zymogen granules present in the cells (of the pancreas) receive from the spleen in the form of an internal secretion the agent with which to elaborate trypsin" The blood carries this product to the pancreas in its solid elements The jejunal mucosa also furnishes a similar tryptic activator, which is produced quite independently of the spleen Bellamy[7] writes further regarding this, "without any reference to the possible and perhaps equally important manner in which the spleen acts in other departments of the animal economy, I propose to consider the spleen in the light of a powerful and indeed essential factor in the pancreatic digestion of proteids , and he follows this up with a convincing and comprehensive review of his work and that of his colleagues at Lausanne

Hedin's experiments[21] demonstrated the presence in the spleen of two proteolytic ferments easily destroyed by heat, the one active in acid media and the other in alkaline Rettger[33] also has injected directly into the circulation of splenectomised dogs an aqueous extract of spleen and has demonstrated a definite rise in the trypsin coming from the pancreas Studies on the relation of the spleen to pancreatic function have been made by numerous other physiologists notably *Pachon and Gachet,*[35] *C inus and Gley,*[12] *Frouin*[31] *Laguesse*[23] and Schäfer[41]

It has been proved that the protective powers of the organism in part are dependent upon the presence in the leucocytes of a certain amount of active trypsin and it is believed that phagocytosis is virtually digestion of the enveloped bacteria by the white blood cells and further, that trypsinogen passed from the pancreas into the blood is activated by the splenic hormone and the active secretions then utilised by the white cells

In 1894–95 Danilewsky and Selensky[19] worked on this study, and as a result of their experiments they announced that the extract of spleen contains a certain definite substance, not destroyed by heat, which when used hypodermically causes a considerable increase in the hæmoglobin index (from 7 to 40 per cent) as well as in red cell count (from 10 to 40 per cent) Bayle[4] himself assumes that the specific action of splenic extract in tuberculosis is due to some hitherto unknown physiologic influence—possibly a colloid producing function, but whether this function is conclusively proved or not, it will be evident from the foregoing and the references which follow that several of the splenic functions are of such a nature as to explain at least a part of the good results secured from the administration of spleen in tuberculosis

The statement of Bellamy, already referred to, that the intestinal mucosa furnishes a tryptic activator is confirmed by Ciaccio,[16] who also states[17] that he has found an enterokinase in the spleen which stimulates the intestines Girolama, experimenting on rabbits and dogs, failed to show that *splenectomy altered in any way the* secretory functions of the pancreas and liver, and it is *well known and frequently emphasised that splenectomy* does not seriously interfere with digestion Bellamy, however, believed that pancreatic digestion is almost completely destroyed following splenectomy, and that digestion is carried out by the stomach and intestines Experiment shows at least that the increased need for food in splenectomised animals and the proof that digestion is not often as perfect with the spleen *hors de combat* or entirely removed, simply emphasises the fundamental which has long been known to physiologists, that quite often the functions of an organ which becomes diseased or is removed are taken up by the others All this simply emphasises that the splenic influence on digestion is supplementary Pugliese[39] has made experiments from which he deduced that the spleen also has an influence upon the composition of bile and Asher[1] in a very interesting paper emphasises his belief that the spleen is in charge of the metabolism of iron

The question of the relation of the spleen to the blood is much better known A [illegible] is an important part of [illegible] entirely essential to it [illegible] leucocytes and its place as an important defensive organ against disease were emphasised by Bezançon[9] in his thesis Goldschneider and Jacob[22] in 1893 reported that extracts of spleen and thymus produced decided leucocytosis and showed that this was evidently not due to the nuclein contained in these extracts for similar experiments with preparations from the thyroid, liver, and kidney, all of which contain relatively large amounts of nuclein, caused no appreciable influence on the white cell count

Carpenter[13] has had considerable clinical experience with the use of splenic extract in typhoid fever, and believes that the good results which he has obtained are due to an influence in restoring the functional activity of the spleen which it is well known is notably disordered in typhoid Its administration "causes a marked increase in leucocytosis and otherwise restores its (the spleen's) functions to normal Carpenter used five grains of splenic extract three times a day in typhoid fever, and states that this was a means of 'rapidly and steadily reducing the temperature without undue diaphoresis' and that it "*ameliorates all the symptoms and restores* the patient to the normal In a more recent article[14] he also advocates splenic extract as a real remedy for malarial infection ' and explains its action in malaria in the same manner as in typhoid and goes as far as to state that it produces the beneficial effects of quinine without its bad effects Incidentally he also advises the use of red bone marrow which seems to activate the splenic extract in those cases which did not promptly respond to splenic extract alone This is in *corroboration of the experiences of others* who have used spleen in malarial cachexia with a resultant reduction in the hypertrophy of the spleen as well as the other symptoms

It is also believed that the spleen exercises an influence on the coagulability of the blood and in some manner tends to prevent hæmorrhage Landau[29] has used splenic preparations with success in various hæmorrhages and reports especially good results in menorrhagia David has also used an extract of spleen in anæmia *clinically confirming* Danilewsky's experimental studies He also found that not only were the blood findings changed but the appetite was increased and there was a corresponding gain in weight and general resistance

Strangely enough spleen preparations have been advocated in Great Britain for the treatment of certain phases of insanity Clark[18] used it in asthenic cases, with good results both on the general and mental condition Confirmation of this is given by Bois and Kerr,[11] *who pointed* out that splenic extract is often useful associated with thyroid extract where indicated

The most recent statements regarding the use of an extract of spleen are those of Carrel, who in his latest paper,[15] advances the startling view, which is backed up by the most extensive experiment, that certain tissue extracts have the power to activate *in vitro* the growth of connective tissue. While he found that the extract of chick embryos was the most active preparation, extracts of adult spleen were almost as active, while kidney and heart extracts were much less active, and extracts of connective tissue or blood cells were almost without influence. Carrel, in his summary, intimates that these discoveries "may be indirectly useful by leading to the discovery of some of the factors determining the growth of tissues and of the unknown laws of cell dynamics, and may ultimately throw light on the mechanism of the cicatrisation of wounds."

More recently van Stockum[43] has been experimenting with an extract of spleen which has previously been exposed to the Roentgen rays. He reports 3000 treatments, which show that the method is harmless, and that it causes an early change for the better in many cases, especially of surgical tuberculosis. Perez[38] believes that good results are obtainable from the administration of an extract of lymph glands, especially in immunising against tuberculosis.

Further reference regarding the influence of the spleen and its hormone may be found, and interested readers are referred to the writings of Patricelli,[37], Liverato,[31] Grimani,[23] Foà,[20] Maggiore,[32] Salomon and Halvron,[40] Lépine and Lyonnet,[30] and Williams.[45]

There can be no reasonable doubt that the spleen has a very important influence upon nutrition, and that splenic extract is a valuable remedy in the treatment of those conditions in which malnutrition is an important factor. The statements preceding, and a study of the literature referred to in the bibliography, cannot but convince the confirmed sceptic that the splenic functions are far more extended and important than those connected with hæmopoiesis.

To sum up, the use of splenic extract has been advised in several diseases, and I believe not only on general theoretical and experimental grounds, but from actual clinical experience, that it is useful in tuberculosis, and that its value is presumably due to certain splenic hormones, on which, in a degree, the following phenomena are dependent:—1. The defences of the blood; leucocytosis, phagocytosis, and, possibly, hæmoglobin formation and iron metabolism. 2. Tryptic digestion, thus directly increasing assimilation and nutrition, permitting an increased intake of food, and indirectly relieving the emunctories from the excessive work common in toxæmia and sub-oxidation. 3. Intestinal digestion and the production of enterokinase. 4. The process of healing, both as regards the prevention of hæmorrhage and the stimulation of rapid connective tissue production. 5. Antagonism to the tubercle bacillus by an influence on its culture medium, due to the production of a certain colloid substance (Bayle) 6. And finally, the function of the spleen itself.

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Hornsey, N.

TRAINED NURSES' ANNUITY FUND (FOR DISABLED NURSES).—The annual general meeting of the members of this fund will be held on Friday, Feb. 28th, at 2.30 P.M., at the Caxton Hall, Westminster. H.R.H. the Princess Christian of Schleswig-Holstein (President of the fund) will preside, and the meeting will be addressed by Field-Marshal Lord Methuen and by Sir Francis Champneys. The honorary secretary is Dr. A. Ogier Ward, 73, Cheapside, E.C.

CHICHESTER INFIRMARY.—The personal interest shown by King Edward in the latter years of his life in the Chichester Infirmary is being maintained by the present Sovereign, who has arranged to visit the institution on August 2nd to reopen the infirmary after reconstruction. His Majesty has intimated that in the event of the governors desiring the title of "Royal" to be given to the institution the board of management should apply to the Home Secretary, and at the annual meeting of the governors on Feb. 13th the trustees were empowered to realise and pay into the general account such a sum as shall free that account from debt and provide a working balance, such being necessary before an affirmative reply would be given for Royal patronage. The annual report showed that the income for the year was £700 less than for the preceding year, but as some of the beds were closed owing to building operations, thus causing a reduction in the expenditure, the loss on the year only amounted to £391. During the year the board of governors received the sum of £1153, subscribed by "the personal friends of the late Mr. William James, C.V.O., as a memorial to him," and also a sum of £300 given by Mrs. William James herself for the furnishing of the operating theatre as a lasting tribute to her husband's memory. It was through this lady that King George's intention to reopen the infirmary was made public. Warm appreciation was expressed at the meeting of the work of the honorary medical and surgical staff, and the extent of their labours is shown by the fact that there were no fewer than 634 in-patients and 3019 out-patients during the year. There were 461 major operations.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE OF A CASE OF GONOCOCCAL PYÆMIA.

BY CLAUDE B. TUDEHOPE, M.B., CH.B. EDIN.,
SENIOR HOUSE SURGEON, WEST KENT GENERAL HOSPITAL, MAIDSTONE.

IN a recent publication, "*Gonococcal Infections*," by Major C. E. Pollock, R.A.M.C., and Major L. W. Harrison, R.A.M.C., I see it stated that only a few cases of the above condition have been recorded. The following case must, therefore, be of some interest.

The patient, aged 25, contracted gonorrhœa two years ago while resident abroad. He received no treatment there, and stated that the discharge cleared up entirely in six weeks. On returning to England 18 months later he had a slight recurrence of the urethritis, and then consulted a medical practitioner, under whose treatment it disappeared in a week. Some four weeks after this (he could not state exactly when) he started "night-sweating," felt ill and unable to work, and was losing his appetite and also losing weight. This general illness continued for four weeks, until one night during an attack of coughing and vomiting while retiring to bed, he "felt something drop" in his left leg. In the morning this leg was swollen and painful, and he could not move it. He was found to have a thrombus in his left internal saphenous vein, and was admitted to the West Kent General Hospital.

The patient was then having slight rigors every evening, and his temperature was rising over 99° F. He would have a profuse sweat during the night, and his temperature would gradually fall until in the morning it was 97°. His liver was 1 inch below the costal margin, and was tender on palpation. He also almost immediately started to cough up sputum containing blood and pus, and examination of his right lung base revealed a small pneumonic area with overlying pleurisy. The sputum was examined microscopically, and revealed pus, pneumococci but no tubercle bacilli. On acquainting the patient with his weight he said that he had lost 1 st. 8 lb. during the last three weeks, and he was assuming a hectic appearance. Although his urine appeared normal and there was no visible discharge from the urethra, there was no difficulty in demonstrating the gonococcus. He was then given 50 millions of gonococcal vaccine, and had a slightly higher rise in temperature, but no other symptoms of reaction. During the week following this injection all his symptoms continued, but towards the end were becoming less severe. He was now given a second injection of 100 millions. Within 24 hours of this his temperature became normal and never again rose above 98·4° throughout the treatment. His liver had now receded to the costal margin and was no longer tender; he coughed very little and there was no sputum. He had no more rigors or night-sweats. Nothing abnormal could be found in his chest except some slight dulness over the pneumonic patch above described. His hectic appearance became less marked. At intervals of a week three more injections of vaccine were given—one of 200 millions and then two of 400 millions each. With the last he had a very decided reaction, with rise of temperature, headache, nausea, and vomiting. These all ceased in six hours. After this he was carefully examined and nothing abnormal could be detected in any system. He no longer had any symptoms whatever, and since the beginning of the treatment his weight had increased 1 st. 1½ lb.

It is worthy of note that the injections of vaccine did not at any time bring on his urethral discharge. He never had any arthritis, and if he had any endocarditis it could never be detected, although often looked for. The origin of the internal saphenous thrombus is just as difficult to explain as the puerperal variety, but I suggest a direct spread from thrombosed prostatic veins. I might also mention that from the fact that this patient had had malarial fever this latter had to be carefully excluded, and, of course, signs of pulmonary tuberculosis were frequently sought for before what I believe was the correct diagnosis was come to.

This case was under the care of Dr. J. Aldington Gibb, honorary physician to the hospital, and I am much indebted to him for permission to put it on record.

Note by DR. J. ALDINGTON GIBB.—The main points of interest in this case are: 1. The rarity of the condition. It was only by a process of exclusion that the actual cause could be diagnosed. Having seen many cases of malarial fever, and having been a sufferer myself, I was able to exclude this. As was to be expected, the gonococci were extra-cellular and in fair numbers. 2. The initial gonorrhœal attack was slight and occurred two years ago. 3. With regard to the thrombosed vein I cannot agree with Dr. Tudehope as to its cause. I think it more likely that it was set up by gonococci getting into the blood stream and infecting the walls of the vein. There are three stages in the spread of gonococcal infection: (*a*) urethral infection; (*b*) blood invasion; and (*c*) tissue invasion. In this case all stages were present. 4. The reaction following the last dose of vaccine was in part caused by auto-inoculation, as the patient was sent home the next day, and I believe spent the evening with friends.

Maidstone.

NOTE OF A CASE OF IMPACTED CALCULI IN THE URETHRA PRESENTING UNUSUAL FEATURES.

BY T. C. RUTHERFOORD, M.D. DURH.,
CAPTAIN, INDIAN MEDICAL SERVICE; CIVIL SURGEON, BILASPUR, CENTRAL PROVINCES, INDIA.

A WELL-NOURISHED and healthy looking man of low caste, aged about 22 years, came to the main dispensary at Bilaspur on Nov. 26th, 1912, complaining of pain on micturition and "dribbling of urine" of five months' duration. On examination there was a small, tender, and hard lump in the middle line of the perineum midway between the anus and scrotum. On passing a sound a calculus could be felt. The urine contained a moderate quantity of pus. The bladder was distended to about 3 inches above the pubis.

An operation was performed on the same day. Chloroform was given, and a sound having been passed and the fact of impaction definitely ascertained, the calculus was cut down on in the middle line. A stone, ovoid in shape and about [illegible] inch in greatest diameter, was removed entire from the posterior portion of the bulbous urethra. A second calculus, which appeared to be about twice the size of the first, was then found lying immediately behind it. As it was large and firmly impacted it was not considered advisable to attempt to remove it entire, and it was accordingly partially crushed with crushing forceps. The more anterior and larger portions were then removed, and it was found that the posterior portion presented an hour-glass-shaped prolongation which extended just within the bladder, the "neck of the hour-glass" being so firmly gripped by the sphincter that this fragment could not be withdrawn. It was accordingly pushed into the bladder, broken with a lithotrite, and the fragments removed with the finger and by washing out. A good deal of oozing of blood from the congested mucous membrane of the posterior portion of the bulbar and from the membranous and prostatic urethra and trigone followed removal, but ceased within an hour from the termination of the operation. The calculi weighed 100 grains and 4 drachms respectively, and appeared to be composed of uric acid and phosphates, the latter preponderating. Convalescence was uneventful, and the patient left the hospital 14 days after operation with a small perineal fistula at the site of the wound.

This case is reported because I imagine that the removal of such large stones from the urethra must be rare. Presumably the smaller calculus was first passed into the urethra and, becoming impacted, increased in size, and its presence led to the subsequent formation of the second stone in the dilated membranous and prostatic urethra. The presence of the prolongation of the second stone through the orifice of the urethra into the bladder is interesting. The case also illustrates the extraordinary power of enduring pain so often exhibited by Indian peasants.

Bilaspur, C.P., India.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

After-effects of Gastro-enterostomy.

A meeting of this section was held on Feb. 11th, Mr. **G. H. Makins**, the President, being in the chair.

Dr. **Arthur F. Hertz** read a paper on the Cause and Treatment of Certain Unfavourable After-effects of Gastro-enterostomy. He said that it must have been the experience of almost every surgeon that patients upon whom a gastro-enterostomy had been performed have at some later period complained of symptoms which were often trivial in comparison with those of the condition for which the operation was carried out, but which were none the less sufficient to prevent the patient from regarding the result of the operation as entirely satisfactory. He had gradually come to recognise that the symptoms in a considerable proportion of these cases were due to causes which had not hitherto been described.

1. *Too rapid drainage of the stomach.*—The patient complained of a sensation of fulness, which occurred during each meal and disappeared rapidly; he might find that by eating with extreme slowness he was able to prevent its occurrence. Many patients recognised that it was localised slightly lower than the position where the pain for which the operation was performed had been felt. In some cases the patient also complained of slight diarrhœa, the bowels being opened after each meal. In all patients suffering from this group of symptoms he had found with the X rays that the stomach was small and hypertonic and that the passage of food out of it was extremely rapid, so that a bismuth meal left the stomach in less than an hour and in one case a quarter of an hour after being taken instead of requiring the normal three or four hours. If the patient was watched while he was taking the meal the outflow from the stoma might indeed appear to be almost as rapid as the inflow from the œsophagus. In all cases, whether there was any pyloric obstruction or not at the time of the operation, little or nothing passed through the pylorus, and sometimes the chyme even failed to reach the portion of the pyloric end of the stomach beyond the stoma. The part of the jejunum into which the gastric contents passed from the stoma was consequently distended, and discomfort resulted. In confirmation of this, the situation of the sensation was found to be lower than that due to gastric distension, and corresponded to the upper limit of the situation of the pain felt when the small intestine was subjected to rapid distension. The patient sometimes found that anything which increased the activity of the small intestine, such as exercise or a dose of castor-oil, though it might increase the discomfort, made it disappear more rapidly than it would do otherwise, doubtless because the distension of the jejunum lasted for a shorter period. Confusion with the symptoms arising from a jejunal or gastro-jejunal ulcer was prevented by the fact that the nature of the diet had a considerable influence on the latter, whereas in this type of post-operative indigestion the quantity and not the quality of the food was alone of importance. The diarrhœa was mainly due to the irritation of the bowels by the food, which escaped from the stomach too rapidly for efficient gastric digestion; owing to the absence of the normal stimulation of pancreatic secretion by hydrochloric acid in the duodenum it did not undergo sufficient compensatory digestion in the intestine. It tended to occur after meals owing to the normal gastro-colic reflex, which he had shown* led to an increase in the peristalsis of the colon whenever food entered the stomach. Complete relief or considerable improvement occurred if the patient was instructed to lie down for half an hour or an hour after each meal, as it was found with the X rays that the stomach emptied itself much less rapidly when this posture was assumed, the stoma no longer being in the most dependent position. In some cases it was better to lie on the right or less frequently on the left side, the best position being easily ascertained by watching the rate of evacuation with the X rays. The patient should also be given some active preparation of pancreatic ferments at each meal in order to compensate for the deficiency of the normal secretions. If the sense of fulness was still experienced in spite of the treatment described, small doses of belladonna and of codein should be given half an hour before meals. If all treatment failed to give relief and the patient's symptoms were severe, it might perhaps be necessary to perform an operation with the object of diminishing the size of the stoma; or, if the pylorus was not obstructed, of restoring its activity by completely closing the stoma. The interesting question also arose whether surgeons had not gone somewhat too far in their desire to obtain sufficient drainage, and whether it would not be advisable in the future to make a somewhat smaller stoma than had commonly been made in the last few years.

2. *Situation of the stoma above the upper level of the gastric contents.*—In cases of extreme dilatation of the stomach he had on a number of occasions observed that in the vertical position the whole of the gastric contents accumulated in the lowest part of the stomach in such a way that their upper limit was below the pylorus and might not even reach the lesser curvature. In such cases nothing at all could leave the pylorus, however strong peristalsis was, until the patient lay down. It was clear that in such cases an effective gastro-enterostomy must have the stoma so situated that it remained in the most dependent part of the stomach even when the vertical position was assumed. He had seen one case of dilated stomach due to simple pyloric obstruction, in which no improvement resulted from operation, and in which he found that in the vertical position the upper limit of the gastric contents did not reach as high as the stoma or the pylorus, but that on compressing the lower part of the abdomen the contents rose above the stoma and at once began to pass out of it. By supplying the patient with an abdominal support and making him lie down for an hour after meals on his left side, the position in which he found that the drainage was most rapid, complete relief was eventually obtained. He believed that the notorious absence of success of gastro-enterostomy, when performed for severe atonic dilatation of the stomach without organic obstruction, must be due to a similar cause, drainage through the stoma being mechanically impossible.

Mr. **Edred M. Corner** read a paper on Inferences of Modern Treatment Drawn from Histories of Patients who have Recovered from Perforation of a Gastric or Duodenal Ulcer.

MEDICAL SOCIETY OF LONDON.

Appendicitis: A Plea for Immediate Operation.

A meeting of this society was held on Feb. 10th, Sir **W. Watson Cheyne**, the President, being in the chair.

Mr. **Edmund Owen** opened a discussion by reading a paper entitled Appendicitis: A Plea for Immediate Operation, which was published in The Lancet of Feb. 15th, p. 441.

Mr. **W. H. Battle** said he did not think that anyone with much experience of appendicitis in its acute form could deny that operation, including removal of the appendix, at the commencement of the attack was advisable, and that it constituted the only plan of treatment that could be regarded as certain to yield adequate results in a large series of cases. To advise a patient to submit to operation was the counsel of perfection. Every patient with an attack had to face a serious illness; if it was not fatal it was one which under the best progress was likely to keep him in the house, and probably in his bed, for days. It was liable to recur. It was also a painful illness, which might, being of a septic nature, change its character, and although of mild beginning bring troublesome complications and threaten life for an indefinite period. Should operation be necessitated by any of these complications he might recover but would remain for a long time weak and exhausted. One might also add that the complication which required operation was usually suppuration, when it was not always advisable to do more than incise and drain, and the appendix might require removal later. He had then to face another operation at a later date when apparently well and he thought himself out of

the wood. He had lost very much and gained nothing by his refusal to submit to operation in the first instance Early operation was not only life saving; there were many other advantages, for the period of illness was shortened and, if done quite early, the wound could be closed without drainage, so no weakness remained at the incision for the future development of a hernia Indeed, the after-course might be so mild that the individual could not believe that he had escaped a possibly fatal illness He sometimes accused his medical man of having forced an operation because he wanted to give his friend, the surgeon, "a job"! Mr Battle remembered one instance of this kind in which a gangrenous appendix was removed and an illness which began with a rigor and a temperature of 106° F was promptly checked by operation within 12 hours The appreciation of the parents was shown by the fact that they soon afterwards changed their medical man, because they considered that he had rushed the operation So much harm had been done in the past by the spread of an idea which was prevalent that appendicitis was a harmless, fashionable complaint that even now it was difficult to make people appreciate the fact that it had many forms, and that some of them might be deadly They often knew of some friend who had an attack (perhaps more than one) from which he recovered in a few days, and did not see why they could not be treated as he was, could not understand how they were in any way worse, it was the same disease The conclusion they came to was that if the doctor was right in his diagnosis he did not know as much about the treatment as the one who cured his friend with medicine It must be evident that if early operation, that was, operation within the first 24 hours, were possible in every case the great mortality of the disease, amounting to several hundreds a year in this country and some thousands a year in the United States would be reduced to reasonable dimensions Much had already been done, but the need for urging the operation on the profession most strongly still existed Human nature was however, very obstinate in this country, and if one told a man he *must* have an operation he possibly declined, he was not going to be forced into it The wise man had the operation, but it was not always only the fool who refused If either of them recovered without, after he had been told he must undergo operation, the fact was spread widely amongst his friends, and perhaps the next who developed an attack died, because he thought that he too would score off the doctor It was possible to be too dogmatic. Every general practitioner who had a large practice could tell you of case after case in which recovery ensued, the illness being quite without incident, in some of which at first the initial symptoms were severe—of patients who, applying for removal of the appendix in the "quiet" period, might have had two or more attacks before they came showing typical symptoms with the development of a swelling in the iliac fossa If one told a practitioner of experience that he could not diagnose and give a reliable prognosis in such instances he would naturally smile at the statement, recollecting many in which he had proved his powers It was difficult to believe that any surgeon would try to force an immediate operation in such cases unless he considered there were exceptional circumstances in the patient who was being examined It might be right and expedient, but not imperative As a general statement it was probably true at one time that no one could say what the condition of the appendix was in an acute case until it had been seen, but he ventured to suggest that at the present time we could define with considerable accuracy what was occurring to cause the symptoms in a large number of cases We could not expect every one to do so but he believed that most experienced men could We had learned much in the last ten years The more important thing was to be able to say, even in the early stage "This is an attack in which operation must be performed as soon as possible there are certain symptoms present which show that it would be madness to postpone operation, even for an hour and risk the great dangers to which such an illness exposes this man" Furthermore the influence of a first attack on the production of suppuration around the appendix must be recollected The occurrence of appendicitis in a pregnant woman was so very disastrous that no effort should be spared to get away the appendix at once In children and again after middle life it was very seldom wise to "put it off" When we saw a case shortly after its commencement we should try to come to a conclusion as to the condition of the appendix on which the symptoms depended, and he did not think it less difficult to come to some decision on this point after 24 hours had elapsed But in addition we had to consider the question whether the powers of the patient, unassisted by the surgeon, appeared able to localise the inflammation In some a reply could be given in the negative. it was a fulminating attack, life was already in the balance, and the surgeon must act promptly In others we could not say, and if the patient was in a period of repose, or under the influence of morphia, there might be still more difficulty The sudden cessation of pain was always an important sign of danger Again, we might find proof that the case was settling down, there might be a localised swelling in the iliac fossa or felt per rectum, many surgeons would hesitate to operate under such conditions, even if they thought that there was pus present in the swelling Appendicitis was a septic disease, and localised suppuration ensued in very many cases, not only without causing great disturbance, but without giving the patient uneasiness. It was localised, the septic fluid had been shut in by an area of protective material and the individual was probably saved Further, we knew that even large collections of pus often came away harmlessly by the bowel Toxæmia produced by
absorption from a localised
whilst interference in a
followed by fatal results I
if the pain and tendernes
abdomen (partial o
earlier symptom d
abdomen, a rapid
pulse rate was associated with a falling temperature), then we could have no hesitation in urging operation And one would find it necessary to drain the peritoneal cavity Regarding operative interference at this stage, there were points which were, he believed, of value Quickness in the manipulation was of importance, but that was not the same thing as hurried handling and disturbance of parts The surgeon should avoid pulling and pushing of the inflamed structures, remove any purulent collection by allowing it to soak in gauze strips, which could be taken away when they had become saturated, search for the appendix after isolating the parts concerned with gauze, if possible wrap the appendix in gauze to prevent contamination of parts as it was taken out, but if it was fixed by old and firm adhesions or so placed that removal would involve repeated or rough handling of inflamed peritoneum, then it had better be left The patient would run less risk than he did from an unduly prolonged operation He could recall more than one case in which he had regretted a removal successfully only after strenuous and prolonged efforts He had thought that it appreciably diminished the patient's chance of recovery If the surgeon did remove the appendix, then he should close the cæcal opening with more than one row of sutures In many cases which were seen later, when the patient was toxæmic with extensive suppuration in the peritoneum, a simple incision and insertion of a large drainage-tube were alone indicated The operation could be done under local anæsthesia, and the effects of drainage were sometimes surprisingly good when combined with proper position in bed and rectal saline infusion One object was to afford the pus an opportunity of escape, so diminishing the quantity of septic fluid from which absorption was taking place, and the tension which was breaking down the protective barriers that had been formed in the attempt of the individual to localise the mischief On the virulence of the septic material which gathered outside the appendix and the power of resistance of the individual, would depend the progress of the case In his opinion boys and young men had far less resisting power than the opposite sex of similar ages, and he thought that much of this was further lessened by the unyielding and more powerful abdominal wall in the former; there was often excessive reflex muscular contraction throughout It was, however, very difficult to say truthfully that because a sloughing appendix, or one which would have perforated before long or one which had perforated already, was found and removed at an operation for acute appendicitis, therefore the patient's life had been saved It was so hard to gauge the power of resistance of an individual It was known he had been saved a very bad illness,

and pneumonia. This attitude was justified by a comparison of the two classes of patients which fell to one's lot to treat—viz., the institutional cases with a relatively high death-rate and the private cases. In the former delay was the rule, and some form of narcotic the curse; in the latter the case was seen much earlier and narcotics were the exception. No one dare deny that a patient having once been a victim to an attack of appendicitis—followed by recovery—in the near future a second attack was inevitable. Short of the full penalty exacted by nature, the lesions left behind after a case had been allowed to drift on on the "wait and see" principle were, to say the least, most unpleasant to face. Amongst the more common were abscess formation, fæcal fistula, considerable damage to the great omentum, permanent adhesions occasionally leading to acute strangulation, subdiaphragmatic abscess, and, lastly, the ever-present ventral hernia. He felt strongly that the bacteriologists had shown us the way to success and had emphasised early interference, and he would be a bold man who turned his head away from the writing on the wall.

Mr. W. H. CLAYTON-GREENE said that the high mortality was due to delay. He agreed as to the value of the early operation in limiting the mortality and preventing complications. His views had been confirmed by the attitude of many physicians who had become more surgical even than the surgeons. It was impossible to say what was going on in the appendix region. Often there was no definite onset. Operation was always necessary, but the type of the operation depended on the condition.

The PRESIDENT said that he operated upon all cases, and considered it the only safe thing to do. He agreed with Mr. George Turner as to the value of a gauze packing with the tube. He always removed the appendix unless the patient was moribund, and did not believe in leaving it temporarily.

Mr. EDMUND OWEN briefly replied.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Specimens.

A PATHOLOGICAL meeting of this society was held on Feb. 7th, Dr. G. P. SHUTER, the President, being in the chair.

The following specimens were exhibited and discussed:—

Dr. ARTHUR R. SAUNDERS: Congenital Hypertrophic Stenosis of the Pylorus, showing, in addition to the usual hypertrophy, a sharp kink at the pyloric end of the stomach almost sufficient in itself to obliterate the lumen of the canal. The infant was admitted to the hospital at the age of 5 weeks for frequent and forcible vomiting. Visible peristalsis could be seen after feeding. The stomach was not dilated, and although it could be distinctly felt through the thin abdominal wall, no mass could be felt in the neighbourhood of the pylorus. As the symptoms improved somewhat under careful feeding, it was hoped that the child would improve sufficiently for a gastro-enterostomy to be performed, but in the ninth week of life an attack of diarrhœa occurred to which it rapidly succumbed.

Mr. ASLETT BALDWIN: 1. Rodent Ulcer of Forearm excised from a man aged 61. The ulcer started in a scar caused by lacerations made by iron nails; it had been present for five years, and sometimes showed signs of healing. A section was also exhibited under the microscope. 2. Tumour of Epididymis from a patient aged 64. The epididymis was about four times the size of the testis, and the central portion had broken down; the testis itself presented no abnormality. Microscopically the tumour did not appear to be tuberculous or syphilitic, but merely inflammatory; various opinions, however, were given as to its nature. The patient had had hydrocele for years, and a month before admission to hospital was suddenly seized with severe pain and inflammation in the left side of the scrotum. No urethritis or injury. 3. Hypernephroma of Left Kidney from a woman of 60. No urinary or other symptoms except some dragging pain in left side of abdomen. Removal about a year ago, and patient still well.

Mr. W. MCADAM ECCLES: 1. Mucocele of Gall-bladder removed post mortem. Calculus impacted in cystic duct. 2. Mucocele of Gall-bladder removed from a lady who had for many years symptoms of dyspepsia, but never jaundice. The cystic duct was tied, and she made a very good recovery. 3. Tuberculous Salpingitis. This specimen was removed from a woman aged 25; she made a perfect recovery, is now married, but has not been pregnant. There were tubercles over the parietal peritoneum of Douglas's pouch. In reply to some remarks, Mr. McAdam Eccles said that in serous tuberculous peritonitis laparotomy was generally followed by a cure. He believed that peritonitis of a tuberculous nature in the female was caused by infection from the Fallopian tubes, and it was best to remove the tubes whenever possible. In his experience this type of case hardly ever did well if the tubes were left. 4. Five Calculi from the Bladder of a woman aged 29. Since the age of 17 up to date of operation she had passed no less than 278 calculi. The stones exhibited were passed spontaneously with great pain, and showed the wonderful dilatability of the female urethra. She did not have any incontinence of urine. 5. Malignant Teratoma of the Testis removed from a man aged 32. It was a mixed tumour containing elements showing its teratomatous nature, and it had also sarcomatous elements. The patient died six months after operation with secondary deposits.

Dr. HAROLD PRITCHARD: Specimens from a case of Banti's Disease, a late and terminal stage of splenic anæmia. The patient died at the age of 9 years with all the signs of portal obstruction and marked ascites. The liver was small and contracted, with an irregular surface, and microscopically showed the changes typically found in multilobular cirrhosis. The spleen was large and tough and contained some considerable amount of fibrous tissue. The peritoneum was thickened.

Mr. T. JEFFERSON FAULDER: Guillotined Tonsils shown to illustrate that practically any kind of tonsil can be removed complete in its capsule simply with a guillotine and a short anæsthetic. The series presented included all varieties of tonsils—the common bi-lobed type, the flat tonsil, all grades of embedded tonsil, and tonsils reduced to the condition of mere pyogenic membranes. Many of them had been operated on previously. In reply to questions by Mr. MCADAM ECCLES, Mr. RICKARD W. LLOYD, and the PRESIDENT, the details of the operation were explained, and Mr. FAULDER pointed out that the operation called enucleation was invented to meet the cases in which the guillotine, as used originally, had failed to cure, and the necessity for the invention of enucleation sufficiently showed that the clinical results obtained by slicing off a portion of the tonsil were often unsatisfactory. By the new method, introduced by Sluder, one could remove as much or as little of the tonsil as was thought desirable, and the operation was a much less formidable procedure than enucleation by the methods hitherto adopted.

Dr. H. H. SANGUINETTI: Acid-fast Organisms from Distilled Water closely resembling tubercle bacilli. It was important to bear in mind this possible source of contamination when investigating the presence of tubercle bacilli, especially by the antiformin method or by the inoscopic method of Jousset.

Dr. SANGUINETTI also exhibited for Dr. J. M. BERNSTEIN and Dr. R. R. ELWORTHY the following specimens from the Pathological Department of the West London Hospital: 1. Splenomedullary Leucocythæmia showing large basophile myelocytes stained by Wright's method. 2. Spirochæta Pallida from primary sore on lip. 3. Carcinoma of Appendix.—(Mr. MCADAM ECCLES remarked on the interest of these cases, occurring so often in quite young subjects. This specimen was from a girl aged 13; symptoms of chronic appendicitis were present, and when he removed the organ, a short stumpy appendix, it showed microscopically a typical carcinoma. These cases generally recovered, and did not have any recurrence in glands or viscera).—4. Tuberculous Pneumonia. 5. Intussusception of Ileum into Cæcum discovered post mortem in a boy aged 1 year and 10 months. There was no peritonitis. The child was brought to hospital without any definite history of abdominal symptoms, and while being examined died. He was well developed and in other respects healthy, and the abdomen when examined was flaccid. 6. Interstitial Nephritis. 7. Melanotic Sarcoma of Spleen and Liver. 8. Shirt Stud obstructing Larynx.

Dr. H. J. F. SIMSON: 1. Fibroid Tumour of the Uterus undergoing Red Degeneration and necessitating hysterectomy at about four and a half months 2 A similar specimen causing miscarriage at five months Hysterectomy for hæmorrhage seven weeks later At the commencement of pregnancy the fibroid was of the size of half a walnut 3 Fibroid of Uterus causing impaction from growth in lower uterine segment and forward displacement of the right uterine artery 4 Carcinoma of Body of Uterus with Pyometra 5 Sarcoma of Body of Uterus with Polypoidal Growth 6 Cauliflower Growth of Cervix 7 Cauliflower Growth of Cervix—cauterised before removal 8 Intracervical Carcinoma—atrophic uterus 9 Intracervical Carcinoma spreading towards bladder

Mr S G MACDONALD Closed Renal Tuberculosis showing upper portion of kidney completely shut off from the ureter so that the urine was sterile and free from pus or tubercle bacilli In the early history of renal tuberculosis latent intervals in the symptoms and apparent progress of the disease were commonly noticed A patient suffered from pyuria, *frequency of micturition &c , after a varying* interval the symptoms subsided and the urine became normal, but sooner or later the symptoms recurred corresponding to definite pathological changes going on in the kidney —Mr MCADAM ECCLES remarked on the interest of this exhibit because of the apparently healthy condition of the urinary passages below the kidney

Dr A K THOMSON took the opportunity afforded by this meeting of introducing The Man Who Grows who claims to be able to increase his height at will by 7 in to increase the length of his arms by 4 to 15 in , and to elongate the neck by 2 in without any dislocation or separation of joints This acrobat stated he could never be sure exactly how much he would accomplish at a given demonstration and that the 7½ in referred to above was his record He then proceeded to demonstrate his power of elongating while in the standing position and although he did not attain the figures quoted the exhibition was remarkable and interesting On submitting himself to examination he appeared to possess within physiological limits an abnormal degree of spinal mobility and an unusual control over muscles which are but rarely voluntarily exercised

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UNITED SERVICES MEDICAL SOCIETY

Regimental and Field Ambulance Training

A MEETING of this society was held at the Royal Army Medical College on Feb 12th Fleet Surgeon P W BASSETT SMITH C B R N the President being in the chair

Major J OLDFIELD R A M C (T) read a paper on Regimental and Field Ambulance Training Discussing the training of medical officers attached to combatant units in the Territorial Force, he drew a comparison between these officers and the medical officers of field ambulances pointing out that the former, after completing their first training camp or course of instruction, may remain for years on the strength and yet never do a single duty for the battalion or come into contact with any of its officers or men Even the maximum of a fortnight every two years in contact with their men and their work could not be considered at all sufficient to enable officers to keep in real touch with their duties The case of the field ambulance officer is very different He is obliged to attend camp once in three years and this is expressly laid down as the minimum with the implied suggestion that he should attend oftener The speaker laid great stress on this point as he considered an efficient camp training to be the only real way in which a medical officer could be fitted for active service duties The point then is that a regimental medical officer is encouraged not to attend camp more often than once in every two years whereas the obligation is laid upon the field ambulance officer to attend camp not less than once in three years No doubt the intention was to lighten the duties of busy practitioners willing to join the Territorial Force by providing a regiment with two medical officers attending training in alternate years but the event has proved that it is easier to get the *same class of busy men to go into camp year after year for the full fortnight* in field ambulances than to get the full complement of regimental officers for camp duty every second year The mere fact therefore of "making it easy" is not an inducement which attracts men to join the Territorial Force Now, what are the duties that a regimental medical officer is expected to perform? It is often and fallaciously supposed that a regimental doctor s only duties are to attend to the sick of his unit in times of peace and to look after the wounded during battle The truth however, is very different It is intended that he should be the commanding officer s right hand man in all matters affecting the health of the troops or prevention of disease amongst them He is responsible for the custody and use of *medical and surgical stores and for the training* and duties of the Royal Army Medical Corps men attached to the unit He has to examine recruits in camp see the sick, and be ready to deal with infectious cases and accidents according to the routine laid down in regulations He has also to familiarise himself with his duties in action and to train the bandsmen in bearer drill and first aid All these duties are very important and it is hard to imagine how they are to be thoroughly performed by an officer to whom no incentive is held out to put in more than the minimum of training laid down in regulations Major *Oldfield* recounted his own experiences of both regimental and field ambulance work and described the increased efficiency with which he performed regimental duty during a temporary return to it after having served in a medical unit He suggested 1 That the one portal of entry into the medical service of the Territorial Force should be the field ambulance 2 That from the field ambulances officers should volunteer for regimental duty not earlier than the close of their first year s training and 15 days camp 3 That a regimental medical officer should not be debarred from an annual camp but rather encouraged to attend it Where there are two medical officers in a battalion one should be attached to a field ambulance for his camp and the other trained with his regiment 4 That every medical officer should train one year in three with a field ambulance in camp 5 That the annual training as to drills riding &c should apply to all Royal Army Medical Corps (Territorial) officers When they live at a distance from drill halls travelling expenses should be allowed 6 That brevet rank should sometimes be conferred on officers showing zeal and ability coupled with any special excellence as an incentive to effort

The following officers took part in the *discussion* — Colonel J HARPER A M S (T) Lieutenant Colonel W SALISBURY SHARPE R A M C (T) Major E B WAGGETT, R A M C (T) and Lieutenant Colonel C H BURTCHAELL Major S L CUMMINS Major F S IRVINE and Capt in GRANT of the Royal Army Medical Corps

Major OLDFIELD thanked the officers who had taken part in the discussion and brought the meeting to a close in a brief reply

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EDINBURGH MEDICO CHIRURGICAL SOCIETY

Exhibition of Patient —The Position of the Radiographer in Relation to the Physician and Surgeon —Adjourned Discussion on Bone Tuberculosis

A MEETING of this society was held on Feb 5th Mr J M COTTERILL the President being in the chair

Dr EDWIN BRAMWELL exhibited a patient a single woman the subject of Congenital Syphilis She complained of weakness of both hands , this was first noticed at the age of one year and was said to have come on gradually though it had not progressed On examination all the small muscles of both hands appeared to be absent The *flexors and extensors of the fingers and wrists were on* the contrary quite well developed There was no alteration in the reflexes or sensation Dr Bramwell was of opinion that the condition had in all probability been a congenital one and only noticed for the first time at the age of one year The fact that the condition was confined to the small muscles of the hand that all the small muscles of the hand were involved and that the defect was absolutely symmetrical were the points upon which this conclusion was based

Mr ARCHIBALD MCKENDRICK read a *communication on* the Position of the Radiographer in Relation to the Physician and Surgeon He said —In this country there is considerable difference of opinion as to the status of the radiographer There are two prevalent opinions One that the radiographer should be merely an X ray photographer whose duty ends with the production of an X ray picture. The other is, that he should be a radiologist capable of helping his medical and surgical colleagues in diagnosis, and therefore on a level with the consulting pathologist, ophthalmologist, and other medical specialists. With the rapidly increasing work in the X ray department of the Royal Infirmary my colleague, Dr. Hope Fowler, and myself are frequently faced with problems involving the question of status. Are we, for example, to continue giving daily demonstration on the diagnosis of X ray negatives? Have we any right to publish the results of our own investigations of the radiographs taken on behalf of our medical and surgical colleagues? The medical managers of the infirmary have made us personally responsible for the safe-keeping of all radiographs taken in our department. They have further made it incumbent on us to classify and index all these according to region, disease, injury, &c. During the past year nearly 6000 radiographs have been taken in the X ray department and distributed to the various members of the honorary staff. Apart from the enormous amount of clerical work involved in the recording, collecting, and storing of the radiographs, the diagnosis and indexing of these entail an intimate knowledge of anatomy and pathology which is far beyond the sphere of a mere producer of X ray negatives. It is important, therefore, that the professional position of the radiographer be fully discussed and accurately defined. I do not wish to bore the members of this society with details of radiography in other countries, but a brief description of the routine work in the X ray departments of other hospitals will, I think, help us in this discussion. In the hospitals of Paris all consultations on radiographs are held in the X ray department. In Brussels, which is typical of Belgium, all the X ray departments are small. The radiographs are sent to the physicians and surgeons. In Holland generally all consultations are held in the X ray department. In Hamburg, Berlin, Dresden, Leipsic, Munich, Frankfort, and Heidelberg the radiographs are examined in the X ray department jointly by the surgeon and the radiologist. Professor Albers Schönberg of Hamburg goes a step further than most of his continental fellow-workers in so far as he says that he does not consider it advisable for the radiographer to allow the original negative to pass out of his hands. Most of the large towns in this country have adopted the continental method of sending a written report instead of an X ray negative to the physician or surgeon. This routine obtains in London, Liverpool, Leeds, Birmingham, Newcastle, Glasgow, and Aberdeen. The Eleventh Congress of the American Roentgen Society in 1910 resolved that the roentgenologist retains the ownership of the Roentgen plate on the ground that it is an integral part of the documents of the case. The following are the terms of the resolution which was submitted and unanimously adopted by the Eighth Congress of the German Roentgen Society.

1. Roentgenology is a duly authorised medical specialty just as are laryngology, ophthalmology, &c.

2. The roentgenologist is a medical specialist, and as such, in accordance with the usual medical custom, is called in by the physician or the patient as a consultant to make or confirm a diagnosis.

3. The roentgenologist makes use of Roentgen examination in addition to the usual clinical methods. He alone decides what particular procedure shall be employed—radiography, radioscopy, &c.

4. All plates, diapositives, tracings, &c., prepared for the diagnosis of the case are the prope[illegible] histological preparations belong to [illegible]ntgenologist will, as a matter of cou[illegible], to place his plates or prints at the [illegible] or surgeon.

5. The supply of plates or prints to sick clubs or insurance companies is a matter of special arrangement. Further, in urgent cases it is the custom for the roentgenologist to place his plates, &c., at the disposal of the surgeon.

6. The Roentgenologist may at his discretion place a copy of the plate at the disposal of the patient. This, however, is only to be done where it cannot harm or cause anxiety to the patient.

From the foregoing resolutions it will be seen that the question which I have taken the liberty of bringing before this society is no new one. It has been discussed at various congresses: Oporto, February, 1912; Prague, July, 1912; and at the French Congress at Nimes, October, 1912. I therefore lay the matter before you as deserving of your opinions.—Mr. DAVID WALLACE said that the plate was of the greatest value to the surgeon, while a mere report from the radiographer that a fracture existed or that there was a stone in the kidney was of little help. Some of the best plates he had seen had been made by men who were without medical training. It was very much what had happened in connexion with electrical procedures, which had passed out of medical hands into those who were not medical, but who did good work. Mr. Wallace was not at all sure that the method which Mr. McKendrick said had been advocated on the continent was that adopted in the United States. Then these resolutions had been passed at special meetings of radiographers. He was always delighted to have the interpretation of the radiographer, but he expected to have the plate sent to himself for interpretation.—Dr. D. CHALMERS WATSON said that some of the unsatisfactory radiographs were due to the instructions not having been precise enough. If he got a first-class print he had no desire to have the plate.—Mr. J. W. STRUTHERS asked, What position did Mr. McKendrick take up himself? One difficulty was that the radiographer had to be a specialist in everything—lungs, heart, bones, joints. The radiographer to be effective must be a specialist in one branch only—e.g., he might take up the respiratory system and perfect himself in this by using other means as well; if he confined himself to radiography it would not be of much value. The primary duty of the radiographer was to give a good plate.—The PRESIDENT said that the radiographer had first to establish the fact that he was equally skilled, or presumably so, with the surgeon or physician who sent the case before he could claim to discuss that case clinically. He had heard from radiographers the most arrant nonsense in the shape of diagnosis that could possibly be conceived.—In reply Mr. MCKENDRICK said that the infirmary managers had laid upon the radiographers the duty of collecting all the plates taken and of classifying them. Out of 6000 plates taken last year only 3700 had been returned.

Mr. JOHN FRASER, in the adjourned discussion on his communication on Bone Tuberculosis,[1] said: At the last meeting of the society I drew attention to certain points in regard to the etiology and pathology of bone tuberculosis. I attempted to show the importance of the large percentage of cases which owed their origin to infection by tubercle bacilli of the bovine variety, and the necessary relation which such a fact bore to the ingestion of tuberculous milk. I traced the possible paths by which the infection spread to the bones and the joints, and I showed the greater liability of the joints to infection as compared with the bones; I laid special importance upon the fact that the bone marrow frequently becomes degenerated previous to its actual infection. I concluded the demonstration by describing the pathological changes in the bones, secondary to the infection by tubercle. I propose to-night to conclude the subject by very briefly outlining some points in regard to the pathology of tubercular joints. I shall recall to your minds some points in simple anatomy. Entering into the formation of the joints are the articular extremities of the bones, the articular cartilage, the epiphysis, the epiphyseal cartilage, and the lower end of the shaft, sometimes called the metaphysis. According to the attachment of the joint ligaments, there will lie within the joint either the epiphysis alone or the epiphysis plus a portion of the diaphysis—that is a point of great importance in the later pathology. The synovial membrane is supplied by a plentiful anastomosis of blood-vessels, and the supply is most perfect around the reflection of the membrane, and to this complete anastomosis the name of the "circulus vasculosus" has been applied; it is from the circulus vasculosus that the metaphyseal vessels pass into the bone. While there are no lymphatic vessels actually in the synovial membrane itself, there is a plentiful supply in the region of the circulus vasculosus, and a lymphatic connexion is established by means of perivascular vessels with the interior of the underlying bone. The only other point in anatomy to which I must allude is the structure of the synovial membrane. It is a connective tissue structure, lined with a flattened epithelium; beneath the cellular lining there is a condensation of connective tissue which forms really a basement membrane. Beneath this condensed layer there is a zone of loose connective tissue, interspersed with fat cells, and in that tissue there ramifies a complete anastomosis of blood-vessels. In discussing the pathology I shall describe it under the following headings:—(*a*) Development of the primary follicle; (*b*) changes in the synovial membrane; (*c*) changes in the cartilage; (*d*) changes in the blood-vessels; and (*e*) changes in the neighbouring bone. The infection is a blood-borne one, and the original development of the tubercle occurs in the tissue of the vessel wall It is usually of the chronic reticulated variety, and it is rarely that one finds it undergoing caseation As it enlarges it develops into a typical follicle, and giant cells appear early, as in bone tubercle the giant cells are specially distinguished by their size and by the enormous number of nuclei which some of them contain *Secondary to the development of this primary tubercle various sequelæ may occur* 1 The tubercle may spread rapidly over the synovial membrane In such a contingency it is probably of the acute type and it constitutes the miliary form of synovial tubercle. 2 The tubercle may extend generally over the synovial membrane, but it remains chronic, and the synovial membrane undergoes a fibrotic change 3 The tubercle may become general, but in the interspaces between the tubercle there originates a quantity of granulation tissue, which gives to the synovial membrane an œdematous and velvety appearance the granulating form of synovial tubercle 4 The tubercle may remain localised, but the synovial membrane undergoes a fibrosis and is converted into a layer of dense connective tissue And, pathologically speaking, these four possible sequelæ constitute the governing factors in the classification of the varieties of joint tuberculosis —

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[1] THE LANCET, Jan. 25th, 1913, p. 246.

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de [illegible]

the blood vessels, in the neighbouring bone and the overlying soft parts The changes in the articular cartilage are of two possible varieties, a *perichondral affection* or a *sub chondral affection* The *perichondral change* is the result of the extension over the surface of the cartilage of a diseased synovial membrane, the covered cartilage becomes degenerated, worm eaten and eroded—a perichondral ulceration The covered cartilage undergoes a myxœdematous degeneration and later a true fibrillation The subchondral affection is quite another thing The tuberculous disease extends inwards between the articular cartilage and the underlying bone lifting off the cartilage in large flakes or as a single composite mass I have alluded to the endarteritis which follows the development of tubercle in bones, and an exactly similar condition occurs in tubercle of joints When the endarteritis affects the metaphyseal vessels most important changes ensue, and these I shall speak of under the changes which occur in the neighbouring bones When the vessels entering the bone from the overlying joint become thickened the narrow area which they supply becomes altered It undergoes a fibro myxomatous degeneration, and by doing so becomes especially susceptible to an infection by tubercle Now it depends upon the anatomical relation of the part *whether the entering vessels supply the metaphysis or the* epiphysis and such is the explanation of why in some instances the metaphysis is especially liable to infection, in other cases the epiphysis is the situation of choice Change in the soft parts need not detain us, they are the changes which are spoken of as white swelling or gelatinous degeneration Their pathological explanation is an increased deposit of fat in the parts and a certain degree of œdema —Professor F M CAIRD said that what struck him forcibly was the *extraordinary appearance presented by the blood* vessels, they were so remarkably like syphilitic vessels —Mr HAROLD J STILES said that the treatment of tuberculous bone and joint disease was a very wide question and that it must not be looked upon from the narrow point of view of the specialist or orthopædist In Scotland there were only three large children's hospitals for treating these cases In the in patients' departments of these there were not a sufficient number of beds to enable these cases to be taken in and treated by conservative means Consequently chronic cases from long distances had to be admitted and treated in the speediest possible way The cases which belonged to Edinburgh were treated by some form of light splint which could be removed and massage employed It was a very different matter, however, when one had to deal with advanced cases which arrived at the Children's Hospital from all parts of Scotland These were the kind of cases which Mr Stiles had to treat and it was the least satisfactory He had been accused of applying radical treatment to cases which might have been treated otherwise There was *no large hospital in Scotland* where these cases might be treated conservatively Under present conditions there was no use in taking in a case where the head of the femur was more or less destroyed or where there was a large abscess down the thigh, it was equally useless to send them home untreated They had to do their best. He had no hesitation in saying that the best indeed the only, treatment in order to save the limb and often the life of the child was a radical operation—i.e., complete removal, there was no use opening abscesses or scraping sinuses, partial operations did more harm than good. Another point was the great improvement in the health of the child after the radical operation There was a form of chronic poisoning which gave rise to the anæmic pasty look and also to other symptoms in the child, all these disappeared after the radical operation All that one asked was that the case should be sent before sinuses had developed, and if this were done a radical aseptic operation resulted in a cure The ultimate result very largely depended on the amount of disease and the extent of the operation but it also depended to a large extent on the care which was spent on the after-treatment As regarded the splint, Mr Fraser had pointed out the disadvantage of plaster, but Mr Stiles wanted to point out the advantages If the patient had to be sent far from a doctor the best way to keep the limb at rest was to apply plaster One could not expect the mother to *remove* [illegible] nb, *and if she* did, mo [illegible] It would be a great [illegible] spital to send these patients to It was to be hoped that a fair proportion of the money which the Chancellor of the Exchequer was going to devote to the treatment of tuberculosis would be spent in checking bovine tuberculosis and not in building sanatoriums —Mr A G MILLER said that Mr. Fraser referred to the large proportion of cases in which the bovine strain was present That was not the experience in other places, in a recent French journal it was recorded that of 60 cases examined no bovine type was found This was perhaps due to the fact that the milk was always boiled in France —Mr J W DOWDEN said that it was interesting to find from a doctor in China and from another in Labrador that tubercle of the bones and joints was exceedingly common, although milk was not drunk, that cervical gland tuberculosis was very rare, and when bone and joint disease did occur it was more [illegible] WATSON [illegible] so much [illegible] but as regarded rheumatoid arthritis He had no doubt as to the profound importance of the vessels in relation to the joints as being perhaps the primary factor in developing the latter disease Recently Mr McKendrick had examined 150 [illegible]

alluded to environment as a causal factor in tuberculosis —The PRESIDENT said that the difficulties of treating tuberculosis were quite as great in an adult as in a children's hospital not so much with the immediate but with the after treatment He advocated the institution of a surgical *tuberculosis convalescent hospital* a place which would correspond to the Victoria Consumptive Hospital He claimed that more distress inability to work, and far more pain and suffering were brought about by surgical tubercle than by medical tubercle If a case of excision of the elbow joint is sent out three or four weeks after operation systematic movements could not be carried out the patient *returned to his dirty,* ill ventilated home and the case had no chance of cure If such an institution were erected it would *not be costly,* open air sheds being the chief requirement This would leave the infirmary free for other cases and would admit of patients who required prolonged treatment and nursing obtaining it It was a duty which they owed to the community and it would lighten enormously the responsibility and labours of infirmary surgeons In such an institution each patient would remain for months and have a fair chance of recovery, which at present a large proportion have not He thought that they should agitate and should urge that the first and most important thing wanted was such a con*valescent surgical* tuberculosis home Mr A A SCOT SKIRVING endorsing what the President had said called attention to there being only two in this country—one near Liverpool and the other in the south of England In these the children suffering from tuberculosis of the joints and bones spent practically their whole day on the sands and the whole nights on the balconies close to the sea. It was a wonderful sight to see children with joint disease, spine disease, glands, &c., all being drawn on donkey carriages, some able to drive themselves, some led by relatives. At Berck-sur-Mer, near Boulogne, there were five such institutions, three with 1000 beds each and two with 2000 beds each.—Mr. **FRASER** briefly replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Polycythæmia.—Early Tabes Dorsalis.—Foot and Mouth Disease in Man: Aphthous Fever.

A MEETING of this section was held on Jan. 31st, Dr. J. F. O'CARROLL, the President, being in the chair.

The **PRESIDENT** showed a man, aged 57, the subject of Polycythæmia. On admission to the Richmond Hospital on Nov. 28th, 1912, he was wandering slightly in mind, was very short of breath, and had the deep purple colour of a very ripe plum. The cyanosis was present over the body, though to a less degree than in the face and neck; there was a trace of albumin in the urine, and there was a moderate effusion in the right pleural cavity. But for his extraordinary assurance that he was quite well, he looked as if he had not an hour to live. About 40 ounces of clear fluid were withdrawn from the right pleura, and he was kept under almost continuous inhalation of oxygen. Next day 10 ounces of blood were withdrawn and the oxygen was continued. On Dec. 2nd a blood count showed 7,500,000 red cells per c.mm. with hæmoglobin 105 per cent. Ten ounces of hypertonic saline solution were injected into the pectoral region, and the oxygen was continued. He was again wandering in mind and unconscious of his surroundings. On Dec. 4th he was again bled to the amount of 10 ounces, oxygen being continued. Next day a little over 40 ounces of clear fluid were taken from the right pleural cavity. A blood count gave 3,800,000 red and 7000 white cells, and hæmoglobin about normal. No abnormal forms were found. He was quite reasonable, and apparently comfortable. On Dec. 7th oxygen was discontinued, and 36 hours later a blood count gave about 7,000,000 red cells. Thirty-five ounces of fluid were withdrawn from the right side of the chest. He was again oxygenated for three days, and the red cells fell to 3,500,000 On Dec. 13th 50 ounces of fluid were taken from the right pleura. On Dec. 16th a blood count gave 7,450,000 red cells, on the 19th 9,250,000, on the 31st 6,250,000, on Jan. 15th, 1913, 5,500,000, and on the 22nd 6,500,000. An examination of the specific gravity of the blood showed that it was distinctly above normal. On Jan. 16th an X ray examination showed apparent dilatation of the aortic arch, appreciable both to right and left of sternum. There was no abnormality of the pupils, no aphonia, no tracheal tugging, no pain, no disparity in the radial pulses, and no sign of undue rigidity of the arteries.—Dr. T. GILLMAN MOORHEAD said he was struck with the variation in the number of red cells in proportion to want of oxygen. His experience in cases of chronic heart disease was that the number of red cells was greatly increased. He did not regard polycythæmia as any explanation of the symptoms, but was inclined to look on it as itself merely a symptom.—Dr. J. J. O'KELLY and Dr. W. M. CROFTON also spoke.

Dr. **MOORHEAD** showed a typical case of Tabes Dorsalis occurring in early life in a young woman. Shortly after admission to hospital Wassermann's test was fully positive. Salvarsan was administered, and since then the Wassermann had been negative; but he could observe no improvement in the symptoms. Some girdle pain was complained of since the injection. He invited suggestions as to the advisability of further injections of "606." A careful examination failed to produce any evidence of acquired specific disease, and there was no congenital history.—Dr. O'KELLY said that he had not seen any bad results from the repeated use of salvarsan in cases of locomotor ataxia, provided it was given in small doses. He thought there was no difficulty whatever in doses of 0·1 grm. Girdle pains were frequently found after the administration of salvarsan.—Dr. CROFTON referred to a case of keratitis in which spinal symptoms developed after the second dose of "606," but cleared up on the third dose being given.—The PRESIDENT asked if anyone present had experience of intravenous injections of mercury on the same lines as salvarsan.

Dr. C. M. O'BRIEN related the history of a veterinary inspector who while in discharge of his duty was bitten by a suspected sheep on the finger and himself contracted foot and mouth disease. The patient was seen first a month after infection, complaining of malaise for a day or two previously. On examination the fingers and dorsal aspect of both hands were markedly swollen and covered with a dull reddish, raised rash, extending to an inch above both wrists. On close examination vesicles in process of formation were observable here and there over the surface of the rash, especially between the fingers and round the nails. Itching was complained of. On removing the dressing from the injured finger the wound gaped, but no pus exuded even on making considerable pressure. There was no perceptible involvement of the lymphatic glands. The throat was congested, with a few vesicles on the fauces. There were vesicles on the inside of the lips, gums, and side of tongue. The latter was swollen and somewhat tender. Speech, deglutition, and mastication were painful. Saliva copious. Temperature 100° F., and never exceeded this. Urine normal; internal organs healthy; reflexes normal. Next day all the symptoms increased, saliva trickled from the mouth, and a rash appeared on the dorsal aspects of both feet, similar to that on the hands, stopping short above both ankles. Ruptured vesicles on fauces now gave rise to small shallow ulcers with dark red base. Temperature 99·5°. Sir Charles A. Cameron and Sir Thomas Myles saw the case in consultation with Dr. O'Brien. The patient made an uninterrupted recovery, and, although not quite up to normal standard of physical energy, he resumed duty within two months. Dr. O'Brien in his paper dealt very fully with the literature of foot and mouth disease in man from the first recorded case in 1695 down to the present.—Professor METTAM said that the possibility of infection in man was well known for the past couple of hundred years. The first authentic case of foot and mouth disease occurring in man was recorded about the middle of the eighteenth century, and since then from time to time similar cases had been reported. The incidence of the disease was much greater on the continent than in these islands, and it was most formidable in Russia and France. In 1880 there was a large outbreak amongst persons in Dover who had consumed the milk of cows suffering from foot and mouth disease, and at the time it was noticed that the incidence of the disease was greater amongst those who had used the cream. No observer had yet succeeded in isolating the germ that gave rise to foot and mouth disease, but that it was of a very virulent nature was certain, since a 300th part of a c.c. of the pus taken from a vesicle was capable of setting up a lesion in cattle.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Feb. 6th, Mr. Robert Jones, the President, being in the chair.—Mr. F. A. G. Jeans read a note on One of the Functions of the Cæcum. He had removed the cæcum in rabbits, with the result that fluid fæces were passed instead of the usual hard motions. The practical application deduced was that rectal salines should be large in quantity, as relatively more fluid was absorbed from the right half of the colon than from the left. In bad cases of peritonitis fluid might be injected with advantage directly into the cæcum or through the stump of the appendix.—Mr. F. T. Paul did not think the appendix could be used in cases where it had been found gangrenous, but tubes might be inserted directly into the large bowel.—Mr. W. Thelwall Thomas thought saline injections might be given through a rubber tube fixed in an appendix stump and would so obviate one of the difficulties of rectal injection which had the disadvantage of requiring the patient to be propped up.—Dr. Hugh T. Shaw thought the appendix and cæcum might, from the relative amount of lymphoid tissue they contained, have a protective function as well as absorptive.—Mr. Jeans replied.—Mr. A. Stookes read a note on Puerperal Mortality in Liverpool. The puerperal mortality in Liverpool had for years been lower than the average of England and Wales, in spite of the fact that there was so large a poor population having a grave general mortality. Quoting the statistics of the medical officer of health in 1911, 74 per cent of all births in Liverpool were attended by women with a mortality from sepsis of 0 59 per 1000 births, 26 per cent of births were attended by doctors with a mortality from sepsis of 1 8 per 1000 births In the past six years doctors cases were diminished in number and during that time their sepsis mortality was nearly twice as great as many cases attended by midwives In Liverpool there had been for nearly 50 years an active training school for midwives so that Liverpool had trained midwives long before the Midwives Act Mr Stookes concluded that where midwives were well trained worked under supervision and with skilled help to fall back upon they did the work on the whole better than a badly paid general medical practitioner who was busy with other cases often septic in nature —Dr A A Mussen (assistant medical officer of health of Liverpool) said the satisfactory state of the Liverpool puerperal mortality had been largely due to the Liverpool Ladies Charity, which had trained midwives, so that while England and Wales had some 20 per cent of the women trained and certificated, Liverpool had only 20 per cent untrained Practically all cases were now attended by women who possessed a certificate There had only been one outbreak of puerperal fever in Liverpool in the practice of any one midwife since the health department undertook their supervision Cases occurred usually as single cases a few in groups of two Each midwife was interviewed on the notification of a septic case and her methods inquired into —Dr H Harvey suggested that practically all cases in which doctors were attending were instrumental cases and this was the opinion of several others who took part in the discussion —Dr R J M Buchanan read a paper on Tumours of the Spinal Cord and described with lantern slides four cases where the tumour was psammoma sarcoma hydatid and cancer secondary to carcinoma uteri which had been removed three years previously Dr Buchanan appealed for early operation in such cases and showed how in his cases the tumour was accurately located and had been easily removed the results being most satisfactory —Mr D Douglas Crawford described two successful cases and agreed that operation should be done if only for the relief of root-pain —Dr W B Warrington had seen nine or ten cases where the lesion had been successfully located Tumours with no pain might give rise to difficulty The nerves which convey sensations of temperature and pain had a rather long path in the cord before crossing and so might give rise to some difficulty in locating a lesion He thought operation was often attended by brilliant results —Mr Thelwall Thomas thought it a pity that cases should be allowed to go on so long before a diagnosis was made and something done Improvement would naturally not follow when the cord had been long compressed He said there was more danger in exploring the spinal canal than in exploring any other cavity of the body —Dr Buchanan replied

Leeds and West Riding Medico Chirurgical Society —A meeting of this society was held on Feb 14th Dr Dobson the President being in the chair —Mr H Collinson read a paper on The Importance of Early Diagnosis and Treatment in Acute Perforated Duodenal Ulcer After dealing with the symptoms and differential diagnosis of the condition he pointed out that mortality in operated cases was directly proportionate to the number of hours which had elapsed between the occurrence of perforation and operation In 27 cases upon which he had operated during the last three years the mortality was 41 per cent Of these, ten were operated on within 12 hours with a mortality of 10 per cent ten cases operated on in the second 12 hours gave a mortality of 40 per cent and in seven operated on after 24 hours had elapsed the mortality rate was 86 per cent A number of points in the operative technique were discussed and he pointed out that the performance of an immediate gastro enterostomy was not necessary for the recovery of the patient and consequently should be reserved for those cases in which operation was undertaken very soon after the perforation had occurred —Dr T Wardrop Griffith showed a case of Disseminated Sclerosis *of which the first symptom noticed in October* 1912 was squint with diplopia This which was due to paresis of the abducens nerve had, to a great extent passed off Marked weakness of one arm and then of the opposite leg soon came on in succession but had undergone a striking improvement There was no intention tremor or staccato speech, but though there had been great improvement the diagnosis was confidently affirmed on the great increase of the knee jerk, on the Babinski phenomenon, on the presence of slight nystagmus on lateral movement and on incipient atrophy of the optic nerve —Dr C W Vining showed a case of Malignant Growth causing pressure upon the main bronchus of the left lung The patient was a male aged 54 years who had suffered with cough and breathlessness for two years and who had had hemoptysis on two occasions The physical signs were greatly diminished expansion with reduced air entry over the whole of the left chest X rays showed no evidence of growth or aneurysm There were no tubercle bacilli in the sputum —Cases were also shown by Mr L R Braithwaite Dr M J Stewart Mr E W Bain, Mr J F Dobson Dr A Bronner Mr L A Rowden Dr C Oldfield Mr R Lawford Knaggs Mr Alexander Sharp Dr R A Veale and Dr G W Watson

Nottingham Medico Chirurgical Society —A meeting of this society was held on Jan 22nd Mr W G Laws the President being in the chair —In opening a discussion on the Medical Aspect of Education Dr L W Marshall said that the aim of teachers should be to produce first physical fitness and then mental culture in their scholars The various parts of the body developed at different periods and the attention of teachers should be drawn to these periods Speaking generally private tuition was bad It was most important that the preparatory schools should be good and such as gave great attention to the early development of the body Only children were greatly to be pitied The kindergarten system was the best for the ages of 4 to 7 years From the seventh to the ninth year neuroses were developed and should be carefully watched At this period the teeth were changing and sleep was apt to be affected After the ninth year the cardio vascular system developed enormously From the seventh to ninth years discipline should be enforced, mental pressure might be developed from *the ninth to the thirteenth* years This was a period when the ' will power was developing and just preceded the commencement of the sexual development at the age of 13 years —Dr Sarah Gray laid great stress on eliminating all physical defects She paid great attention to the nervous child—i e one of exalted sensibility The objects of the teacher should be to (1) make the child a healthy animal, (2) avoid stimulation in every way (3) provide for ample sleep, (4) allow the child a definite amount of leisure time daily to itself—i e to allow it to amuse itself, and lastly not to overwork the child—especially between the years of 9 and 13 —The discussion was continued by Dr S E Gill Dr J S Bolton and Dr W Hunter

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Dr Ranking Memorial Tunbridge Wells —The endowment of a bed in the local general hospital has been decided upon as the form of the memorial at Tunbridge Wells to Dr John E Ranking who was killed in a motor accident at Bexhill in September last Both rich and poor have subscribed to the fund the donations ranging from one farthing to 100 guineas Just over £200 are still required to raise the £1000 which is needed, and the fund will remain open until April

Taunton and Somerset Hospital —The annual meeting of the *subscribers to the Taunton* and Somerset Hospital was recently held under the presidency of the Hon H B Portman The medical report was satisfactory and the financial statement showed that during 1912 in addition to the investment of £13 726 bequeathed to the hospital by the late Mr J Cook the committee had also invested £1059 being the surplus of income over expenditure This satisfactory result is due to the exceptional amount which has been received from bequests and special donations especially the sums of £1000 each for the endowment of two beds presented by the *Hon Mrs* Portman and the Hon H B Portman respectively in memory of the late president the Hon E W B Portman During the past year the honorary medical staff had been increased by the appointment of Mr A T H Iles M R C S Eng, L R C P Lond, as medical officer in charge of the newly established [illegible] al department

Reviews and Notices of Books.

A Manual of Immunity for Students and Practitioners. By ELIZABETH T. FRASER, M.D. Glasg., late Assistant Bacteriologist Glasgow Royal Infirmary; Beit Research Fellow. Glasgow: James Maclehose and Sons. 1912. Pp. 199. Price 5*s.* net.

THIS small volume is a very successful attempt to place the fundamental facts of immunity and their application to modern medical practice before the practitioner and student of medicine. It might also be read with profit and pleasure by any scientifically educated layman interested in medical progress, for the author's style is, at least, less arid than that usual in scientific text-books. As she remarks, it is obvious that the physician can no longer be a "mildly interested looker on" while others apply to practical medicine methods of diagnosis and treatment which are based on the study of immunity, or "he will be forced into the position of a passive transmitter of ideas which are entirely beyond his grasp." The author appears to think that what she describes as the "almost wanton" introduction of new terms has scared the practitioner from a study of the subject. Naturally, therefore, an attempt is made in this book to clear the subject of technical terms. It is, however, a difficult matter to make more than an apparent clearance, and is largely in this case effected by relegating such terms to a glossary at the end of the book.

Though the work is not technically divided into two parts, the subject is treated in two sections. The first deals with immunity in general, viewed from a threefold standpoint as it relates respectively to the body fluids, the body cells, and the varying resistance of the micro-organism concerned in an infection. This portion is excellent, the facts are well arranged, and the fundamental ideas are not lost in a cloud of detailed observations. The result is a well-balanced account of the importance of the various factors of influence in the production of immunity and of the share which the various schools of bacteriology have taken in their elucidation. The second portion, occupying about half the book, deals with immunity reactions applied to therapeutic and diagnostic ends. This portion is, perhaps, scarcely so satisfactory as the earlier part of the book, a fact which probably arises from the nature of the subject rather than from the method of treatment. The necessary compression of statement renders it impossible to give the clinical basis on which belief in the therapeutic or diagnostic efficiency of the methods is founded. As the author says in reference to the value of vaccines in treatment, this has to be based on individual clinical impressions and not on any scientific data. The view of the desirability of preventive inoculation with antidiphtheritic serum is more strongly held than is usual in this country, and the recommendations of the French Academy of Medicine are quoted in support. In the section on reactions used for diagnostic purposes the complement-fixation test and its derivative, the Wassermann reaction, naturally occupy a prominent position. The technique devised by Boas is strongly recommended for the Wassermann reaction, though it is certainly not a simplification.

The book is not a laboratory manual, and therefore technical descriptions of methods are not always complete; there is an omission of any reference to agglutination in relation to Mediterranean fever. Chapters on anaphylaxis and chemotherapy, together with a statement of Ehrlich's side-chain theory, complete the work. It is certainly a book to be recommended to the practitioner and is presented in a pleasant and well-printed form.

Die Störungen der Sehfunktionen. Von Dr. W. LOHMANN. Leipzig: F. C. W. Vogel. 1912. Pp. 206. Price, paper, 10 marks; bound, 11.50 marks.

THE need for an up-to-date introduction to the study of what is ambiguously termed physiological optics has long been felt by those whose enthusiasm carries them beyond the everyday routine of ophthalmology and neurology. The need has been met to some extent in this country in a recent book by Mr. Major Greenwood, jun.

The present work covers somewhat similar ground, but has the advantage of giving recent references to literature, so that the study may be extended and amplified if desired. Hitherto information has had to be sought in vast treatises like Helmholtz's Physiological Optics or Nagel's encyclopædic so-called "handbook" of physiology. In both the exposition was intended for the pure scientist: there was much that was beyond the requirements or possible scope of the clinician, and there was little or no reference to pathological states. Dr. Lohmann throughout deals with the subject in direct relationship to diseased conditions. After a preliminary section on the physical, physiological, and psychological aspects of vision he considers blindness in its various relations, chiefly psychological. Visual defects due to refractive errors are next reviewed briefly, and such conditions as metamorphopsia and the entoptic appreciation of opacities of the media. The next section treats of the abnormalities of central and peripheral vision with their physiological bases. A valuable chapter discusses the anomalies of adaptation and the light sense, anomalies which often do not receive due recognition from ophthalmologists. Retinal adaptation and the peculiarities of vision in a dull light are adequately discussed, and von Kries and Hering's theoretical considerations reviewed. Colour vision occupies two chapters, devoted respectively to congenital and acquired defects. The succeeding chapters deal with chromatopsias, "colour hearing," binocular vision, defects from lesions of the visual paths and centres, and subjective optical phenomena.

There is little new in the book, but as an introduction to the more recondite problems of vision it can be warmly recommended. It is exceptionally well printed and illustrated.

A Text-book of Obstetrics. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania. Seventh edition. With 900 illustrations, 50 in colours. London: W. B. Saunders Company. 1912. Pp. 1013. Price 21*s.* net.

IF but little need be said about a text-book which has reached its seventh edition it is none the less fair, from time to time, to notice the various steps in its revision which enable it to continue to hold its own. A change has been made, for example, in the arrangement of the chapters of this manual; the physiology of the process of generation precedes the pathology, with the exception that sterility is considered in direct connexion with normal conception, while malpresentations are naturally included under the head of the mechanism of labour.

The author considers that it is right to include the diseases of women and their treatment as a necessary part of obstetrics, and this plan has been continued in this edition. The contention that the consequences of child-bearing constitute the majority of the diseases of women is, of course, quite a sound one, but at the same time it is a question whether an attempt to combine the two subjects in one volume is not a mistake, and apt to lead to an imperfect account of both. However, in the present work the author has accomplished his purpose well, and, as he points out, the master of a modern maternity service is the only specialist in command of sufficient clinical material to be a qualified expert. It is interesting to learn that some of the best medical schools in America have dispensed with a separate department for teaching diseases of women, and that the rest will probably do the same eventually, to avoid the unnecessary duplication and the imperfection of teaching inevitable, in the opinion of the author, if the two subjects are separated The attitude can only be maintained with difficulty To the inclusion of an article on diseases of the breast in a work devoted primarily to obstetrics there are, in our opinion, many objections Perhaps the practice in America differs, but we imagine very few obstetric physicians in this country ever undertake the treatment of any of the diseases of the breast which are not immediately connected with child bearing Certainly in this country the general surgeon is likely to acquire a much greater experience in diagnosis and treatment in these matters than the obstetrician and gynæcologist

The whole work has been revised and in large part re written The author apparently is not much in favour of pubiotomy, and would limit the operation to cases in which the head is impacted low in the pelvis and in which there is *insuperable obstruction from a contracted outlet, or to* mento-posterior positions of a brow or face with the cervix fully dilated, two classes of cases in which the majority of operators would consider pubiotomy certainly not indicated On the merits or defects of extraperitoneal Cæsarean section Professor Hirst does not apparently express any decided opinion

Though the book contains a great deal of information it remains unequal, thus the section on the treatment of placenta prævia is excellent, while that on the treatment of accidental hæmorrhage is disappointing In the latter condition the author seems to favour treatment by *accouchement force*, and no mention is made of the method of plugging the vagina, nor is there any clear distinction between cases of concealed and those of external accidental hæmorrhage There are a large number of excellent illustrations, of which many are in colours

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A Treatise on Tumours BY ARTHUR E HERTZLER, M D, Ph D, Associate Professor of Surgery in the University of Kansas With 538 engravings and 8 plates London J & A Churchill 1912 Pp 725 Price 30*s* net

THIS work is evidently the outcome of a large amount of experience, alike in the clinical study of tumours in their histological examination, and in the teaching of students, and we think that the author has attained his aim, which was, he tells us, to write a book which should provide for the student and the practitioner information both on the clinical and scientific aspect of tumours

In the account of individual tumours and of the nature of tumour growth there is much that is original. Dr Hertzler is inclined to hold that a modification of Thiersch s theory will best explain all the phenomena of the formation of new growths He agrees with Thiersch that the primary change in the formation of a carcinoma is a lessened resistance in the connective tissue which permits the epithelium to proliferate Further, he has observed that the connective tissue in the neighbourhood of a carcinoma contains fewer cells, losing in part its affinity for acid dyes, and therefore he suggests that the lessened acidophilic property of the connective tissue permits the invasion of the basophilic epithelium, or, to express it in another way, invasion of the connective tissue occurs whenever the basic power is excessive or the acidophilic power is reduced The theory is ingenious, but it is doubtful how it will stand the test of *time The parasitic theory* is dismissed with a *somewhat* brief description

The several varieties of tumours are described in order, the tumours composed of simple tissues being taken first. In the account of the osteomas the author has not made it clear that the ivory and the cancellous osteomas have essentially different modes of origin, the ivory exostosis being derived from periosteum, while the cancellous exostosis is formed by the ossification of cartilage Also in the description of the treatment he has not made it clear that it is necessary that the whole of the cartilage covering a cancellous exostosis be removed before the surgeon can guarantee that the osteoma will not return In the account of carcinoma the author describes under the heading of basal celled type the ordinary rodent carcinoma and he appears to think that it was first fully described by Krompecher in 1903 The name he uses is unfortunate, as the author himself remarks, for it is certain that these growths are not derived from the basal cells He goes on to say that "Coenen has particularly expressed the belief that they develop from either the sudoriferous or sebaceous glands," as if this were a new opinion But Coenen's paper did not appear till 1907, and this origin of these tumours had then been cleared up for nearly 30 years The chapter on the general diagnosis of tumours is one of the best in the book, and the remainder of the work consists *of a sound account of the tumours affecting* the several regions of the body The work gives a clear account of tumours, and the practical application of the facts which have been ascertained as to their nature is also clearly set forth

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Medical Diseases of Children (London Medical Publications) By T R C WHIPHAM, M A, M D Oxon With 67 illustrations London University of London Press (Henry Frowde and Hodder and Stoughton) 1912. Pp 417 Price 10*s* 6*d*

THIS new work on the medical diseases of children is a plain, straightforward account of the common complaints to which infants and young children are subject It is clear, without specific intimation of the fact in any introduction or preface that Dr Whipham has addressed himself more to the student than to the practitioner For examination purposes this work contains neither too much nor too little information, from the point of view of treatment the details are probably insufficient and certainly far too general The illustrations, which are original and almost, if one may say so, artistic, make an outstanding feature of the book

Inasmuch as the whole subject of the medical diseases of childhood is included in the scope of this work and inasmuch as the total number of pages only amounts to some 400, it is clear that there can be no dallying with the refinements of style and the attractions of controversy The book is businesslike and to the point from start to finish, and for the guidance of inquirers it may be stated that it is of about the same size, and of about the same standard of fulness as Dr Alfred Carter's well known "Elements of Medicine" If there is such a thing as an English school of pædiatrics, this work of Dr Whipham may be said to be thoroughly representative of it As a late secretary, and always an active member of the Children's Section of the Royal Society of Medicine the author records his experiences in these associations on almost every page of his work Whether he has been altogether wise in ignoring so much of the work of French, German, and American writers is another matter We think that the work of Czerny and Finkelstein on the disorders of nutrition deserves to be included in an up to date text book of diseases of children, and we are disappointed to find that the closely allied triad of symptoms, tetany, laryngismus stridulus, and eclampsia have not been grouped together according to the *German method under the common* heading of spasmophilic neuroses The association of these symptoms with rachitis is referred to by Dr Whipham but the important fact that phosphorus has an almost specific influence in the treatment is not mentioned, and doubt is further cast on its efficacy in the treatment of rickets in the more general manifestations of this disease.

In the chapter which deals with scurvy we notice the somewhat remarkable statement that the dangers due to the sterilisation of milk can be obviated by carrying out the process of sterilisation in small bottles, each containing sufficient for one feeding. "In this way the loss of alkaline salts can be reduced to a minimum, and the child be fed on a harmless and efficient food." On p. 197, in reference to the troubles of dentition, it is stated that when there are much redness and swelling a crucial incision over the erupting crown will generally cause an abatement of the symptoms. While thoroughly agreeing with this line of treatment, we cannot help thinking that the steps to be taken in dealing with the eruption of the canines, which usually give the most trouble, are not accurately described by the injunction to make a crucial incision. The crucial incision should, in the opinion of most dentists, be reserved for the molars, and linear incisions made in the case of the single teeth. Again, and with no wish to be hypercritical, we cannot help taking exception to the statement, on p. 125, that measles can be an "*exciting*" cause of tuberculosis; while on p. 339 we are told that enlarged tonsils are a "*reflex*" cause of nocturnal enuresis, which can hardly be true.

Owing to its general accuracy and temperate views this new work on the medical diseases of children is a perfectly safe work to put into the hands of a student.

Psychology: a New System based on the Study of the Fundamental Processes of the Human Mind. By ARTHUR A. LYNCH, M.A., C.E., L.R.C.P. Lond., M.R.C.S. Eng., M.P. In two volumes. London: Stephen Swift and Co. 1912. Pp. 814. Price 21*s.* net.

IT is unusual in these days to envisage the possibility of a science being born or re-born by a Minerva-like parturition in the brain of an individual thinker; and, outside the domain of metaphysics, where by prescriptive right every theoriser may spin a complete speculative web of his own, we hardly expect to find a writer claiming to expound a totally new system in any branch of knowledge. It may therefore be something of a shock to the reader of Mr. Arthur Lynch's "Psychology" to discover from the first pages of the work, and indeed almost from its title, that it purports to present considerations on the science of mind which are "new not only in regard to subsidiary points, but in the enunciation and solution of the basic problem of them all." This is a very large claim, and an author who makes it must expect to have his facts and arguments scrutinised very closely before his conclusions can be adjudged to be at once as new and as true as he represents them to be. It is impossible to pretend that Mr. Lynch's work supports this ordeal very satisfactorily.

The essential feature of his system is the differentiation in the working of the mind of what he terms the fundamental processes, or, as he elsewhere calls them, the non-analysable faculties. This has rather the familiar ring of the system of classification dear to the psychology of an earlier generation; and the sense of familiarity is deepened when we learn that these processes are discovered by "the old methods of mental analysis and introspection," eked out with the help of "elementary physiological facts." Of course, an old method may be put to new and more profitable uses, but it is difficult to see in what respects Mr. Lynch's analysis brings us to any clearer perception of the facts of mind. The fundamental processes which it reveals are, it seems, 12 in number—to wit, immediate presentation, conception of unit, memory, association, agreement, generalisation, feeling of effort, impulse, hedonic sense, sense of negation, conception of time, and conception of space. Now, though the bringing together of these terms as applying to conceptions on the same plane does, indeed, produce a certain sense of strangeness, and though the terms themselves in some instances are new or are old terms taken in unusual meanings, it is tolerably obvious that the aspects of mental activity which they connote belong to the regular stock-in-trade of psychology, and that the novelty which they possess may therefore be no more than verbal.

To decide whether they have any higher value we may turn to the exposition of some one of these fundamental processes. Let us take, for instance, memory: what has Mr. Lynch to teach us concerning this phenomenon? "Let us speak," he says, "of Idea as the image which the mind displays of a past experience, such as a particular sensation. ...... Memory is the Fundamental Process by which the Idea is made known as existing" (p. 28, Vol. I.). Now, if there is in this statement any departure from the current definitions of memory in psychological text-books, it is assuredly in the direction of confusion and inaccuracy. Are we to understand that the idea, taking the term in the peculiar meaning which the author attaches to it, has an existence apart from memory? If so, what is the "fundamental process" by which the mind "displays" it? If, on the other hand, it only comes into being through the operation of memory, how does the gratuitous introduction of this term, with its initial capital, add anything but obscurity to the discussion? It would be easy to multiply from other chapters of the work similar instances of confused thinking and nebulous phraseology, but this may suffice to show the general mode of treatment adopted by the author. If he has a mind to write on psychology, Mr. Lynch would be well advised to cultivate a more rigorous accuracy of thought, a keener spirit of self-criticism, and a simpler style.

Lehrbuch der Haut- und Geschlechts-Krankheiten. Herausgegeben von Professor Dr. ERHARD RIECKE, Leipzig. Zweite vermehrte und verbesserte Auflage, mit 17 Farbentafeln und 307 grossenteils mehrfarbigen Textabbildungen. Jena: Gustav Fischer. 1912. Pp. 756. Price, paper, 16.50 marks; bound, 18 marks.

THIS book, which is edited by Professor Riecke, of Leipzig, has been written by a number of German, Austrian, and Hungarian physicians, each of whom holds a high position in dermatology.

The chapter on what may be called general dermatology has been written by Dr. Gustav Riehl, of Vienna; this deals with the anatomy and physiology of the skin, and contains also an account of the symptomatology. Dr. Salomon Ehrmann, of Vienna, has written the section on acute and chronic eczema; Professor Riecke, of Leipzig, has taken all the scaly eruptions; Professor Bettmann, of Heidelberg, has written the articles on the vesicular and bullous eruptions; Professor Leo von Zum Busch, of Vienna, is responsible for the account of the skin lesions due to disturbances of circulation. Professor Török, of Budapest, has taken the diseases of the sweat glands and of the sebaceous glands, the alopecias, and the other affections of the hairs not due to hyphomycetic fungi. Professor Grouen, of Halle, has dealt with the tuberculous affections of the skin and most of the other granulomata. Professor Tomasczewski, of Berlin, has written on the new growths of the skin; Professor Riecke on ichthyosis and keratoma and similar conditions; and Professor Jesionek, of Giessen, has described the animal and vegetable parasitic affections of the skin. In the section dealing with the venereal diseases, Professor Bruhns, of Charlottenburg, has written the articles on gonorrhœa and soft sore, while the important subject of syphilis has been allotted to Dr. B. Buschke, of Berlin.

It will thus be seen that the editor has succeeded in enlisting the aid of a very distinguished band of writers, and the result is all that might be expected In a work on diseases of the skin the illustrations have probably a greater importance than in a work on any other subject, and in this volume they are above the average There are many coloured plates which are excellent, and in addition many of the illustrations in the text have been printed in colours

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Tumours of the Jaws By CHARLES LOCKE SCUDDER, M D With 353 illustrations, 6 in colours London and Philadelphia W B Saunders Company 1912 Pp 391 Price 25*s* net

"A BOOK without a smile" would be, perhaps, an appropriate general description of this volume The feature of the work is the illustrations, which are more numerous than the pages, the author having brought together portraits demonstrating the awful ravages and gruesome distortions of the face that ensue when tumours in these regions are not detected and surgically treated in their early stages New growths of the jaws, relatively speaking, are not common, and it is the infrequency of these cases that increases the responsibility of the practitioner

The object of Dr Scudder's monograph is, firstly, to assist the practitioner in determining in a given case what form of new growth is present and what is its best treatment Secondly, to make vivid the picture of each tumour of the jaw by statistical story and by case history, so that the practitioner may recognise the new growths of the jaws in their early stages Epulis, sarcoma of the jaws, benign tumours of the jaws, the odontomata, carcinoma of the jaws, the diagnosis and operative treatment of malignant disease of the upper and lower jaws, tumours of the palate, leontiasis ossea, and, finally, prosthesis are successively dealt with in nine chapters As regards treatment, Dr Scudder considers that the operation should depend largely upon the character of the tumour A mutilating operation should not be done for a relatively benign form of malignant growth On the other hand, a very thorough and much more extensive operation is demanded for the malignant growths than has been practised in the past

The book is well produced, and is the first complete description of the growths of the jaws in American medical literature

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LIBRARY TABLE

Another Device By STEPHEN PAGET London, New York, and Toronto Hodder and Stoughton Pp 326 Price 5*s* net —The medical man who has not read "Confessio Medici" has much left to ponder and enjoy And when he has accomplished that there yet remains for him "Another Device" Before he shall have finished that, let us hope that Mr Stephen Paget will be ready with still another treasury of illuminating thoughts, expressed in that terse direct, and startlingly apposite language which, as we said in reviewing the first named book, constituted veritable links binding literature to medicine In this, as in the former volume, the wide range of the author's themes is noteworthy, but here his purview is no longer limited by the horizon of medicine, but includes the wider activities of man, inclusive of woman and child What a delightful cameo he carves of the Right Sort of Girl How aptly she is compared with her predecessor of mid-Victorian days "Fifty years ago she would have been called, by the women of that memorable time, a boisterous and undisciplined child But she was not there fifty years ago, and, if she could have been there, she would not have been what she is here The present state of things is the making of her, it is in every day of her life, every hour of her day" And finally, how adequately he sums her up: "They who know her a little, call her pleasant but superficial; they who know her well, call her a fine character but rather uneven, they who live with her, admire her faith, reverence, self-judgment, and passionate desire to make the right use of her life" And "her little world"—which is all of us, for do we not all know her?—"says that, if she does not marry and have children, it will be a dreadful waste of just the sort of girl who ought to do that" We can feel equally with the author as philosopher in his practical comment on the Influence of Berkeley, as man in the street, in his *reductio ad communia* of Heredity and Life, as artist in his impressions on the First Sight of Rome There are times, it is true, when Mr Paget is hypercritical, as when he says (p 226), talking of style, "there is no style in *As it was in the beginning, is now, and ever shall be, world without end*, but it sounds well in Latin, *Sicut erat in principio, et nunc, et semper, et in sæcula sæculorum*" Many, on the contrary, must feel that the English loses nothing of dignity or beauty by comparison with its Latin original There is more serious and pertinent matter in such essays as Hospital Life, the Doctor's Opponents, the Genius of Pasteur, and the Revival of Phrenology, but treated always in the lighter rippling vein, which confers life and movement on the current of thought without obscuring its rocky bed below We said, when reviewing Mr Paget's earlier work, that the author was a notable maker of phrases In the present book, speaking of a holiday, he says "If it is more than eight weeks it is not a holiday. It is a house in the country" We also said that he knew his Juvenal and his Shakespeare, to which we may now add that greatest book of all, his Human Nature

Fortschritte der Naturwissenschaftlichen Forschung Herausgegeben von Professor Dr E ABDERHALDEN, Direktor des Physiologischen Institutes der Universitat, Halle a S Funfter und Sechster Bande Berlin, Wien. Urban und Schwarzenberger 1912 Price, each Band, 15 marks, bound, 17 marks —The subjects treated in the fifth volume of the "Progress of Natural Science" are the Origin of Sex, by Dr Kammerer, of Vienna, the Telegraphon, by Dr Eichhorn, of Zurich, the Foods Required by Adults in their Relation to Bodily Work, by Professor R Tigerstedt, of Helsingfors, and a paper on Transplantation, by Dr G Axhausen, of Berlin The articles which make up the sixth volume include such subjects as the Present Position of Nautical Science, by Professor W Halbfass, of Jena, Geomorphology, by Dr Ruhl, of Berlin, Optic Sensibilisers in the Animal and Vegetable Kingdom, by Dr Hausmann, of Vienna, and the Results of Radio active Investigation, by Dr Hahn and Dr Meitner, of Berlin There are only two contributions that will appeal directly to medical men—one on Functional Psychoses, by Dr O Bumke, of Freiburg i B, and the other on Regeneration and Allied Subjects, by Professor Barfurth, of Rostock, a subject which has special attraction for medical men who take an interest in pathological problems of regeneration largely treated from the point of view of the comparative anatomist To profit fully from Professor Barfurth's exceedingly interesting and comprehensive paper the reader must have a good knowledge of invertebrate and vertebrate structure and embryology The references to the literature alone run into nearly 20 pages

Concerning Conscience By H JEFFS London James Clarke and Co 1912 Pp 278 Price 3*s* 6*d* net —This book might very well have as its subtitle "Lay Sermons" and, indeed, we gather from the preface that Mr Jeffs is a lay preacher among his other occupations He writes in plain, simple language and with a manifest intention to be scrupulously fair, qualities which should ensure him a respectful hearing, even were his matter of a far lower quality but that pancreatic rennin is a ferment entirely different and distinct from gastric rennin. In both processes calcium salts may be replaced by salts of barium, strontium, or magnesium. The author puts forward a hypothesis as to proteolytic ferments which coagulate milk, which is fully stated in the original text.—Fatty Acid Metabolism in the Liver: II., The Relation of the Fatty Acids in the Food of Plaice to those in their Livers and Myotomes, by V. H. Mottram. Fatty acids of marine vertebrates have a very high iodine value, but they are not characteristic of vertebrates, for those of the mussel are also of high iodine value.—The Ferments of the Pancreas: I. Generation of Trypsin from Trypsinogen by Enterokinase, by John Mellanby and V. J. Worley. The following are some of the authors' observations:—The length of time taken by the activation process is a function of the amount of enterokinase added. Reaction proceeds most rapidly in neutral solution, is delayed by alkali, and stopped by acid. Proteins delay the activation process.—Broncho-dilator Nerves, by W. E. Dixon and Fred. Ransom. It is known that the vagus contains both broncho-dilator and broncho-constrictor fibres. The authors found that the bronchial muscles are supplied by powerful broncho-dilator nerves of sympathetic origin. The fibres proceed mainly through the rami of the first, second, and third dorsal nerves to the ganglion stellatum, and proceed to the lungs with the cardiac accelerators. A variable number of fibres pass down the cervical sympathetic, and these, like the others, have their cells in the G. stellatum. Adrenalin in an animal showing bronchial tonus causes active temporary dilatation, atropine causes passive permanent dilatation.—The Proceedings of the Physiological Society for Oct. 19th, 1912, include the following: F. W. Edridge-Green: Simultaneous Colour Contrast, XIX. E. M. Tribe: Effect of Adrenalin on the Pulmonary Circulation (preliminary communication), XX. J. B. S. Haldane: The Dissociation of Oxyhæmoglobin in Human Blood during Partial CO Poisoning, XXII. Nov. 23rd, 1912.—Ida Smedley: The Biochemical Synthesis of Fatty Acids from Carbohydrate, XXV. H. H. Dale: The Anaphylactic Reaction of Plain Muscle in the Guinea-pig, XXVII. H. Hartridge: The Sensation of Yellow, XXIX. W. M. Bayliss: A Simple "Frictionless" Tracing Point, XXXI. W. Burridge: Some Points on Excitation and Contraction in Muscle, XXXII.

Parasitology. Edited by G. H. F. NUTTALL, F.R.S., and A. E. SHIPLEY, F.R.S.; assisted by EDWARD HINDLE, Ph.D. Vol. V., No. 4. January, 1913. London: C. F. Clay, Cambridge University Press. Price 10*s*. Yearly subscription £1 10*s*.—The Fixation of Rabies Virus in the Monkey (Macacus rhesus), with a Study of the Appearance of Negri Bodies in the Different Passages, by H. W. Acton and W. F. Harvey, contains strong evidence in support of the view, advocated by these investigators, that the Negri bodies of rabies do not represent any parasite, but are the result of a development round nucleolar fragments in the cytoplasm of the ganglion cells. The size of the Negri bodies was found to steadily diminish on passage through monkeys, until they became almost ultra-microscopic. At first they were large and, with Mallory's iron hæmatoxylin and Bordeaux red, stained brown to black, but by the sixth passage they stained wholly black, being identical in staining reactions with the nucleoli. At the seventh passage, together with the development of the paralytic form of rabies, there was a very decided drop in the number of Negri bodies present, and this fall continued through the following passages. It seems, therefore, that the Negri body as found in the ganglion cell tends to disappear altogether from this region with the attainment of fixity of the virus. Bullocks injected with street virus showed large Negri bodies, whereas those injected with fixed virus showed none at all.—The Life-History of Dermacentor Variabilis, by Seymour Hadwen, consists of notes and observations on the life-cycle of this tick in Manitoba. The ticks were raised on rabbits and were found to drop off their host after each stage, the whole cycle from the egg to the adult occupying about 210 days.—New Trematode Parasites from Fishes of the English Channel, by William Nicoll, contains the descriptions of four new species obtained from the fishes of the English Channel at Plymouth. One of these new species, Podocotyle syngnathi, was found in pipe-fishes. The remaining three species—Lepidauchen stenostoma, Hemipera ovocaudata, and Derogenoides ovacutus—are each made the type of a new genus. The author concludes with a discussion of the affinities of the last two genera.—Trypanosomes Found in a Cow in England, by Alfred C. Coles, contains the description of a trypanosome found in the blood circulation of a cow from Dorset. Only two parasites were seen, but from their description it seems probable that this trypanosome is the same (apparently non-pathogenic) species that has been described from many other parts of the world.—In Memoriam: Wilhelm Dönitz, by G. H. F. Nuttall, is a short account of the life of this distinguished investigator. The article contains a complete list of his publications, including works on general zoology, anatomy, entomology, parasitology, medicine and surgery, pathology, bacteriology, and immunity. This remarkable versatility was also accompanied by very able administrative capacities, these being recognised by his appointment to the directorship of the Institute for Infectious Diseases at Berlin.—The Herter Lectures, by G. H. F. Nuttall, include two of the lectures delivered by the author at Johns Hopkins University, U.S.A., in October, 1912. The first lecture, on Spirochætosis, not only summarises the most important recent advances in our knowledge of this subject, but also contains many interesting original notes and observations. The author emphasises the fact that the various specific names given to the spirochætæ causing relapsing fever in man are merely convenient expressions in order to distinguish races or strains of different origin. They cannot be regarded as valid names, for virulence and immunity reactions are not adequate tests of specificity. In the second lecture, on Trypanosomiasis, the author succeeds in presenting a summary of the mode of infection of trypanosomiasis in both man and animals, and also an account of the powers of adaptation shown by trypanosomes.—Nuttallia und Piroplasma bei der Piroplasmose der Einhufer in Transkaukasien, by Dschunkowsky and Luhs, contains a description—in German—of the piroplasmosis of horses and mules in Transcaucasia. The horses were found to be infected with both Nuttallia equi and Piroplasma caballi. In addition, the authors noticed the presence of Nuttallia in a mule, and were able to infect both horses and donkeys by injections of its blood. Also a new species of Nuttallia—N. asini—is described from the blood of donkeys, in which animal it produces a somewhat chronic form of piroplasmosis.

Jahreskurse für ärztliche Fortbildung. January, 1913. Munich: Lehmann. Price 18*s*. a year.—In this number of the Annual Course of Post-graduate Study, Professor Pick contributes an article on the metabolism of proteins in the animal body, and Professor Lubarsch discusses the limitations of pathological anatomy and histology and its recent problems. Professor Pick gives a valuable account of the behaviour of albumin after injection into the blood stream, when it may produce the phenomena of anaphylaxis, and then discusses its digestion by the ferments pepsin, trypsin, and erepsin. Pepsin splits off from the albumin molecule albumoses, peptone, and a residue, probably polypeptide, which does not give the biuret reaction Trypsin resolves the greater part of the albumin or peptones into amino acids, but there is a certain residue of unaltered "antipeptone" This is broken down, like other peptones, into amino acids by the erepsin Bacteria resolve the amino acids into still simpler products In patients with cancer of the stomach there is often an abnormal ferment in the gastric juice which splits the polypeptide glycyl tryptophane into its constituents Professor Lubarsch writes upon the signs of death having actually taken place, and then discusses the post-mortem signs of those diseases in which the pathological findings are not very distinctive, with special reference to the infective fevers, acute hæmorrhagic processes, and inflammatory conditions of the eye The histological distinction between the granulomata and the recognition of the early stages of malignant disease also come up for review, but the descriptions do not include anything very novel The statistics of tuberculosis at necropsy are also given for Düsseldorf as follows —

Deaths from Tuberculosis

1908	437 = 1 57	*per 1000*	*inhabitants, and*	10 75 %	*of total*	*deaths*
1909	485 = 1 48	,	,,	10 36	,,	,,
1910	507 = 1 44	,,	,,	11 7	,,	,,

Tuberculous changes were found in 46 2 per cent of all post mortems in 1910, whereof the mischief was active in 22 8 per cent and quiescent in 23 4 per cent In children the figures were higher, tuberculosis, recent or old, was found in more than half of all cases coming to necropsy, the exact ratio being 60 9 per cent in 1908 62 1 per cent in 1909, and 59 3 per cent in 1910 Other observers are quoted who report tuberculous bronchial glands in 87 per cent of all children dying between the ages of 6 and 16

Reports and Analytical Records

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"ILYOS STANDARD FOOD

(H W MURFITT AND SONS, DOWNHAM ROAD MILL, ELY, CAMBS)

The analysis of this cereal preparation shows that it contains a comparatively rich proportion of the individual constituents of the whole wheat berry The proteins and fats are particularly high with a corresponding reduction in the amount of carbohydrates It possesses a decidedly increased nutritive value compared with ordinary wheat flour. The following analysis supports this statement Moisture, 11 83 per cent , mineral matter, 1 70 per cent , protein, 14 70 per cent , sugar, 0 65 per cent , fat, 6 60 per cent , and starch and dextrin, 64 52 per cent The amount of substance soluble in water was just short of 30 per cent , and amongst the soluble constituents found was a decided amount of dextrin, so presumably in the course of manufacture part of the starch is converted The amount of mineral matter is further satisfactory, containing an important proportion of phosphates

SUPREME OLIVE OIL

(COSENZA AND CO , 28A CLARGES STREET, LONDON, W)

This oil is put forward as of specially pure quality which adapts it particularly, though not exclusively, for medicinal use Evidence in favour of its purity was obtained by a series of tests, directed, for example, to density, iodine absorption equivalent, and certain physical constants With each and all the oil gave perfectly normal results, evidencing that it is pure and free from admixtures with foreign oils Certain qualitative tests were also made which admitted of the same conclusions in regard to purity Finally, the acidity of the oil was measured, and it was found to amount only to 1 41 per cent in terms of oleic acid In view of these results it was not surprising to find that the oil is entirely free from unpleasant odour and taste It is a pure bland expression of the olive fruit

LA PRESTE NATURAL MINERAL WATER

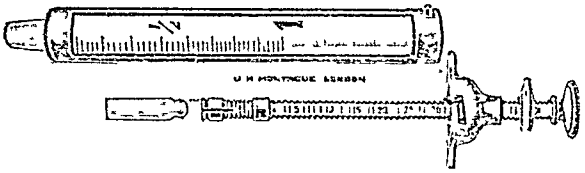
(THE PYRENEAN WATERS COMPANY, LIMITED 16, PICCADILLY ARCADE, LONDON, W)

La Preste is a health resort with a thermal establishment situated in the Eastern Pyrenees, about 50 miles from Perpignan The waters have been employed for a good many years in the treatment of affections of the urinary tract, cystitis vesical catarrh, prostatitis, and so forth The chemical analysis of the water does not offer a satisfactory explanation of its value in these disorders, for according to our examination the total solid matters do not amount to more than 11 20 grains per gallon, an amount which characterises those drinking waters known as soft Amongst the mineral constituents the following were found Silica, 3 22 , calcium carbonate, 0 14 , sodium chloride, 1 148 , sodium carbonate, 0 312 , sodium sulphate, 4 14 grains per gallon It is curious to note that silica is one of the leading constituents, although the amount of this is small However, experience has shown that a course of this water is beneficial in genito urinary diseases, and it would seem that the explanation can hardly rest on the chemical story revealed Possibly the extraordinary purity of the water—that is, its freedom from minerals—endows it with physical properties which in the *régime* of a course lead to a physiological process of demineralisation The water is warm, but no claim is made in regard to radio active properties The establishment is situated amongst charming scenery, and the accommodation provided is well appointed The water is supplied in bottles at the above agency

New Inventions.

A NEW HYPODERMIC SYRINGE.

THIS syringe has been designed with a view to embodying the good points of syringes already in common use, while doing away with such defects as are met with in many forms. The barrel of the syringe is of glass, and is in one piece with the nozzle. This latter is made specially stout in order to prevent its being easily broken off, and fits such standard needles as are supplied to the Government of India.



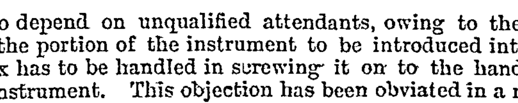
The plunger is also of glass, and this combination of glass barrel and glass plunger secures that perfect suction action such as is seen in the better types of the all-glass syringe, which is so essential if accurate results are to be yielded. To the glass plunger is affixed, by means of a special "ball and socket" joint, a metal piston-rod with a screw thread, thus allowing the dose to be accurately regulated, and so an exact fraction of the contents of the syringe to be injected, in a manner usually possible in metal syringes but not possible in the all-glass ones. The syringe is contained in a metal guard fitted with a cap that is fixed in place on the top of the guard by means of a bayonet catch, thus preventing the piston from slipping out of the barrel. There are no washers connected with any part of the syringe, and hence the disabilities often met with in syringes fitted with washers are avoided. Since the syringe is so arranged that expansion of its various parts by heat causes these to slightly separate one from another it can, with all its parts screwed up tightly and with its needle fitted on to its nozzle, be put straight into actively boiling water and sterilised by boiling without fear of breaking; while after taking it out of the steriliser the syringe is ready for immediate use without further manipulations being necessary. The plunger being of glass is not softened by boiling and so has not to be occasionally renewed. The illustrations show the syringe when taken apart and the manner in which the glass plunger and metal piston rod are connected together. I have much pleasure in thanking Dr. Charles Slater, bacteriologist to St. George's Hospital, for his valuable suggestions in carrying out this idea.

The syringe can be obtained of J. H. Montague, 69, New Bond-street, W., and is supplied as an ordinary 1 c.c. syringe with divisions of 1/20th c.c., or as a special 1 c.c. syringe with divisions of 1/40th c.c., this latter form being thought to be useful for the hypodermic administration of tuberculins; also as a 5 c.c. or 10 c.c. syringe. The special 1 c.c. syringe is here shown.

E. L. HUNT, M.B., B.S. Lond., D.P.H. Camb.,
Clinical Pathologist to Mount Vernon Hospital for Consumption, and Assistant in the Bacteriological Laboratory, St. George's Hospital, S.W.
Upper Montagu-street, W.

AN IMPROVED CERVIX DILATOR.

THE usefulness of the principle of Fritsch's cervix dilator in minor gynæcological operations is beyond dispute, but in these days when aseptic surgery is aimed at by every surgeon its usefulness is very much curtailed, especially when one



has to depend on unqualified attendants, owing to the fact that the portion of the instrument to be introduced into the cervix has to be handled in screwing it on to the handle of the instrument. This objection has been obviated in a modification suggested by me and made by Messrs. C. J. Hewlett and Son, Limited, of Charlotte-street, London, E.C. In this modification the part to be introduced is fixed on to the bar, and the lower portion of the stem of the bar can be slipped into the universal handle of the instrument, and by a slight twist of the handle a bayonet catch renders the instrument fixed for use. After dilatation, through that piece, the handle of Size 1 is unfixed and the bar of No. 2 slipped into its place. This is fixed in the same way and used. The remaining sizes are used according to graduations. Instead of 5 I have increased the sizes to 7, and have put the whole in an aseptic metal case, with folding legs. This enables the case to be used in sterilising the instrument, with the aid of a small spirit lamp, and a small clip is also included in the case for facilitating the taking out the size required without any difficulty and inconvenience.

OGUNTOLA SAPARA, L.R.C.P., L.R.C.S. Edin.,
Lagos, Southern Nigeria. L.F.P.S. Glasg.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

AN ordinary meeting of the Council was held on Feb. 13th, Sir RICKMAN J. GODLEE, the President, being in the chair.

In accordance with the report of the Court of Examiners Diplomas of Membership were issued to 98 successful candidates.

It was resolved to issue, in conjunction with the Royal College of Physicians of London, Diplomas in Public Health to 12 successful candidates.

It was resolved to contribute 50 guineas to the Lister Memorial Fund.

It was resolved, on the recommendation of the Examination Committee, to make various changes in the regulations for the Primary Examinations for the Fellowship, and of these changes the most important was that in the examination in physiology two papers, each containing four questions, of which the candidate must answer only two, shall be set, and that two hours shall be allotted to each paper; and that the same arrangement shall be adopted for the written part of the examination in anatomy.

Mr. C. H. Golding-Bird was re-elected the representative of the Council on the Central Midwives Board.

The PRESIDENT reported that he had chosen Mr. G. H. Makins as Bradshaw Lecturer for the ensuing collegiate year.

A letter was read from Lady Butlin offering to present to the College a replica of the portrait of the late Sir Henry Butlin by the Hon. John Collier, which was exhibited in the Royal Academy a few years ago. The offer was accepted with appreciative thanks.

The SECRETARY reported that he had received from the executors of the widow of Mr. Cæsar Henry Hawkins a portrait by Zoffany of Mr. Pennell Hawkins, Master of the Company of Surgeons in 1778, and great uncle of Mr. Cæsar Henry Hawkins, the picture having been bequeathed by Mr. Cæsar Hawkins to his wife for life, and after her death to the Royal College of Surgeons, with the direction that it should be placed near the picture painted by Hogarth of Sir Cæsar Hawkins, Bart., brother of Mr Pennell Hawkins.

The PRESIDENT reported that Mr. W. A. Maggs's period of office on the Board of Examiners in Dental Surgery would expire on March 12th, and that the vacancy thus occasioned would be filled up at the quarterly meeting of the Council in April.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—A meeting of this society will be held at 11, Chandos-street, Cavendish-square, London, W., to-day (Friday, Feb. 21st), at 8.30 P.M., when Dr. F. M. Sandwith will open a discussion on Pellagra, and read a paper entitled "Can Pellagra be One of the Diseases Due to Deficiency of Nutrition?" A paper will also be read upon "Fatal Pellagra in Two English Boys, with the Results of Pathological Investigation of One Case," communicated by Dr. Charles R. Box and Dr. F. W. Mott, F.R.S. March 21st being Good Friday, no meeting of the society will be held on that day, but it is proposed to hold the next meeting on April 18th.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 22, 1913.

The Value of Post-mortem Examinations.

THE unusual application recently made to the Divisional Court in connexion with the death of Mr. HUGH CECIL TREVANION at Hove emphasises the fact that in the interests of justice the cause of every death inquired into by a coroner should be established in the fullest possible manner. Now the evidence on such an occasion is rarely, if ever, complete until a post-mortem examination has been held, and has been followed by such analysis as may be deemed advisable, and at any time such examination may have to be supplemented by elaborate research. At the first inquest in this case, quashed in accordance with *the terms of Section 6 of the Coroners Act of 1887, it* was proved that the deceased was a young man in the habit of taking veronal to induce sleep, and that at the time of his death he had veronal in his possession. A friend living with the deceased deposed to the effect that on the *evening of his death he stated that he had taken an overdose* and he asked that a medical man might be sent for. The medical man arrived and took such steps as were suggested by the symptoms, which were entirely consistent with veronal poisoning, but the patient died. A previous occasion on which an overdose of veronal had been taken by the deceased was described by his mother. The evidence, in short, seemed to corroborate the statement referred to as having been made by the deceased, and, as there was no suggestion of any threat of suicide having been uttered, it is not surprising that a verdict of death by misadventure from an overdose of veronal was returned by the jury without such confirmation as post-mortem examination and analysis might have supplied. As a matter of fact, the question of ordering a necropsy was discussed, and the mother of the deceased was desirous that there should be an adjournment for the purpose; but apparently one of her other sons thought otherwise.

The insistence of the mother, however, led to the exhumation of the body of her son, and the submission of it to examination by Dr. W. H. WILLCOX and Dr. B. H. SPILSBURY. The result of *their examination fully justified* the action of the Home Office in the matter, for reports made by them were stated in the Divisional Court to show that veronal must have been taken by the deceased within an hour of the time when he became unconscious to the extent of *150 grains*, his ordinary habit being to take a dose of 7 grains to induce sleep, followed by a second if the first was ineffectual. The lengthy course of the second inquest was followed with close attention by all interested in medico-legal matters, but the evidence on both sides was of a kind to make it almost a foregone conclusion that the jury would in their verdict attach no blame to anyone, but would find that the sale of veronal required further restriction. The evidence has been *so fully reported* in the newspapers that it is unnecessary to recapitulate it, and it is enough to say, in dealing with the legal *aspect of the facts* proved, that the verdict of the jury was a perfectly right and proper one. It was conclusively shown that the deceased died from taking a very large quantity of veronal, probably not less than 150 grains. This was a matter of scientific evidence as the result of examination and analysis, and the amount taken by a young man who had had personal experience of the drug and of the effects of an overdose precluded the idea of "accident" in the ordinary sense. Those associated with the deceased in his flat were very few in number, and they did not pretend to know how or when young TREVANION swallowed the poison which caused his death. That he should have done so with the intention of ending his life, or of alarming his friends, was not inconsistent with his character and previous actions, but there was no evidence that he intended to do either upon the night in question. A verdict of suicide or of accidental death would have entailed the jury forming an opinion as to the question of his intention, after being satisfied *that he took the veronal knowing that he was doing so.* The alternative to a verdict upon the lines suggested above would have been one of wilful murder against some other person. Mr. ROE, a friend who lived with him, obviously had opportunities to administer poison to the deceased, in addition to which he would have been a gainer by his death, and there was some evidence, contradicted however, that he was aware of this fact. There was no evidence to indicate that ROE had anything whatever to do with the veronal being taken by TREVANION, and the difficulty of causing another person to absorb so large a quantity of the drug without observing its presence was entirely in his favour. In addition to the absence of evidence of any sinister act or intention on the part of ROE, there was evidence of an independent *character to the effect* that his undoubted influence over TREVANION was used upon many occasions to restrain him from excess, alcoholic and otherwise, when indulgence in it would probably have had the result of shortening life. Any *other verdict than that arrived at would have been* founded upon conjecture, and as no fresh evidence as to the precise manner in which young TREVANION came to die is likely to be forthcoming, that point will have to remain undetermined.

The affair has had two results of some public importance. The council of the Pharmaceutical Society has recommended the scheduling of diethyl-barbituric acid as a poison,[1] and there can be little doubt that the Privy Council will approve the recommendation. Secondly, it has been demonstrated, so far as it needed demonstration, that the cause of death in every case inquired into by the coroner should be established with the greatest degree of *certainty attainable*, and that the inquiry is incomplete if anything is left to conjecture or opinion which can be proved with certainty by post-mortem examination. In the case of young TREVANION the evidence at the first inquest seemed to point quite naturally to an accidental overdose, and this view would have received confirmation if post-mortem examination had revealed the kind of overdose to be expected in a case of accident. The case will no doubt be long remembered by coroners, and it is to be hoped that it will be understood and appreciated by public authorities, members of which are apt not infrequently to regard the cost of post-mortem examinations as an expense that coroners ought to endeavour to avoid. Mr. VERE BENSON, the coroner, summed up the case in a masterly manner, his fairness being conspicuous.

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[1] THE LANCET, Feb. 15th, 1913, p. 478.

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When to Operate in Appendicitis.

MUCH difference of opinion still exists as to the most suitable time for the surgeon to intervene in an attack of appendicitis, and the question was made the subject of a debate at the Medical Society of London on Feb. 10th. The discussion, which we publish elsewhere, was opened by a paper, which has already appeared in our columns,[1] from Mr. EDMUND OWEN, who spoke strongly in favour of operation in all cases of appendicitis as soon as possible after the disease has been recognised, and he was followed by a number of other surgeons who held the same views. The debate may therefore leave the impression that no other views are possible, and it is unfortunate that Sir GEORGE BEATSON, who had arranged to present the arguments of those who advocate a waiting policy, was unable to be present. No one supported this attitude, and there were no real differences of opinion expressed, for the only divergences that were mentioned referred merely to the management of certain of the details of the operation. It can hardly, therefore, be claimed that the discussion has enlarged our knowledge. No new suggestion was brought forward in favour of a waiting policy; but the reasons for adopting immediate operative treatment were well put, and their presentation by a number of surgeons showed, more clearly than if only one surgeon had spoken, the basis on which is founded the immediate operation for appendicitis.

The diagnosis of inflammation of the appendix does not, as a rule, present any difficulties. The localisation of the pain, the fixation of the abdominal muscles, often the presence of a palpable swelling in the neighbourhood of the right iliac fossa, with the added symptoms of inflammation, are, taken together, sufficient to indicate the condition. It is true that occasionally some of these signs and symptoms may be absent, and yet inflammation of the appendix may be present, but these cases are exceptional, and even in them it is nearly always possible to recognise the appendicitis when it exists. The difficulty arises after the diagnosis has been made. Should an operation be performed, and if so, when? There are those who claim that a very large proportion of the cases of appendicitis would recover even if no operation were performed, and urge that if an operation be done in every case as soon as the diagnosis is made, a great many unnecessary risks will be run by the patients. There is an element of truth in this statement. It is certain that there are cases which recover even if no operation be done, but it is by no means easy to determine in what proportion of instances this is true. While some put the percentage as high as 50, and some, indeed, even higher, it is probable that 30 per cent. would be a more accurate estimate. Some surgeons say that in mild cases it is better to postpone the operation to the "quiet interval" when all the inflammatory symptoms will have ceased, and when the operation of appendicectomy can be performed with a greater measure of success. It is true that the delayed operation is associated with a very small mortality; in fact, with many operators it may be said that no deaths occur after operations performed during the quiet interval. This is doubtless a very strong argument in favour of waiting until the acute symptoms have subsided, but the difficulty exists that it is not really possible to distinguish which cases may be safely left in this manner and which must be submitted to operation immediately the diagnosis has been made. There are cases whose only chance of life depends on an immediate operation, when the inflammation of the appendix is so severe that it has given rise to sloughing and acute perforation of the appendix. Should these cases be left, no quiet interval will ever arrive, but there will occur within a very short time an attack of septic peritonitis. The attack will be so intense that no time will be allowed for the localising of the sepsis by the formation of peritoneal adhesions; the peritonitis will be diffuse and a fatal result is practically certain. It may be answered that it is possible to distinguish these fulminating cases from the more common forms of appendicitis, and that an operation might be performed without delay in those cases in which the attack seemed to be of the intensely acute character. When, however, an attempt is made to draw up the diagnosis between various forms of appendicitis great difficulty is experienced in finding pathognomonic symptoms or signs. The temperature is of some value, but it is not absolutely trustworthy, for in some of the cases of the greatest severity the temperature may be not at all raised, even though a general peritonitis has commenced. The pulse is of more significance than the temperature, but it cannot be absolutely trusted, for in very severe cases there may be no increased frequency of the pulse. The sense of muscular resistance over the inflamed appendix is certainly of value in the diagnosis, but all surgeons with much experience have seen cases in which no resistance can be felt even though the inflammation is acute. The general aspect of the patient is worth something, and the sensation of pain is also important, but the surgeon who relies on these will sooner or later find that his trust has been in vain. There is no infallible way of deciding that the inflammation of the appendix is certainly of a mild form, and may with perfect safety be left until the quiet interval has arrived, and this, of course, is the great argument for immediate surgical interference.

At the meeting of the Medical Society of London the speakers were in practical unanimity in saying that in all cases the operation should be performed as soon as the diagnosis has been made. Some held that if an abscess be found the surgeon should content himself with the opening of the abscess, and should postpone the removal o a later date, unless the appendix should present itself in he wound With this exception, all agreed that the sooner he appendix was out of the body the better. Not until the appendix is removed can the surgeon feel certain that it may not form the starting point of an acute peritonitis Many a time has it occurred that the surgeon has been able to emove an appendix on the very point of bursting, sometimes it has given way as it was being lifted with all gentleness out of the abdomen Only too often it has happened in the past that the surgeon has found that even a delay of a few hours has sufficed to give rise to an acute peritonitis In these circumstances surgeons feel and express themselves strongly with regard to the policy of procrastination, claiming that nothing but immediate removal of an inflamed appendix will offer the best chance of a successful issue

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[1] THE LANCET, Feb. 15th, 1913, p. 441.

The Biological Basis of Specific Therapy.

THE details which go to make the treatment of specific diseases by anti bacterial remedies a practical success are many, and our knowledge of them is still in course of formation The treatment of such disorders is, in principle, a branch of parasitology, and therefore, like the treatment of grosser parasitic infections, largely a matter of attention to detail General principles do not take us far in the treatment of parasitic disorders, because success is mainly a question of getting a recognised specific remedy into effective contact with the parasite, and such a result is not to be compassed easily in microbic infections It is one of the drawbacks to Professor EHRLICH's *well known theory of immunity* that it makes the process of resistance to an infecting organism more simple than it probably ever is in reality The infecting organism is represented generally either as being phagocytosed, or else agglutinated or bacteriolysed by one or other of the hypothetical series of bodies whose pre existence in all of us is invoked as the explanation of sundry observed phenomena, where probably several of these actions cooperate together to produce the result To get a similar effect artificially will not be easy, and this explains, no doubt, many instances of failure in specific treatment with sera and vaccines

An even greater obstacle to the effective treatment of parasitic disorders of every kind is the difficulty of bringing the remedy into effective contact with the parasite Parasites being highly specialised beings in their manner of life, their habit is to settle themselves in situations where they will be as far as possible beyond the reach of anything noxious to them, and the result is that they are always difficult to dislodge. If this were not so, parasitic disorders would not exist The medical practitioner, therefore, who sets himself to eradicate an infectious organism from any host, is facing no easy task; and though we may talk of bringing protective bodies into contact with bacteria, as a matter of fact such organisms locate themselves where, each in its own way, it will be beyond the reach of such a means of defence Dr SIMON FLEXNER has given a very good example of this in the case of the organisms which cause various descriptions of meningitis The cerebro spinal fluid is a non albuminous liquid, and therefore the immune bodies in the blood penetrate into it with great slowness, whilst, on the other hand, the antibodies formed have no difficulty in getting out of it into the blood It is consequently quite easy to manufacture protective sera against these forms of meningitis, but to get them into effective contact with the bacteria the method of lumbar puncture is indispensable Similar reasons make Bier's bandage so beneficial in the treatment of infections of the joints, which, for anatomical reasons, are not very vascular structures Though these are instances of the simplest kind, we may be sure that every other micro organism, like every grosser parasite, contrives so to locate itself in the body of its host as to be to a very considerable degree protected against unfavourable influences of every description The user of anti bacterial sera and vaccines should, therefore, not be too optimistic about his chances of getting them to go where he wants them to go

In the course of a bacterial infection the type of the organism may mutate or change into something else which may be either less virulent or more virulent than the original strain In the former case a featureless recovery occurs, but in the latter case the patient will succumb unless he can manufacture a new set of immune bodies to cope with the new adversary The phenomena of relapses or exacerbations in the course of a disease receive a good deal of support from such a hypothesis, amelioration being effected through the original strain of the organism being dominated by the protective mechanism to a certain extent, and then a new variety starting up which requires the business of cure to be begun again *The physician will be on the alert to this possibility*, and it is most true that infectious disorders of all kinds are most liable to be scotched and not killed. Dr FLEXNER suggests that, wherever possible, such variants or mutants, in Mendelian phraseology, should be isolated and employed for the purpose of making extra sera or vaccines, to be used upon the same or other cases We have, of course, in this the germ of the idea of using polyvalent serums, only the organisms used in making such serums should not be selected at random It will be manifest to the practitioner of medicine that if he is going to enter upon therapeutics of this refined order, the bald, sketchy views of serum therapy with which most people are satisfied will not be sufficient for him There is a tendency undoubtedly to regard serum-therapy and the analogous use of bacterial vaccines as something that will make the practice of medicine more easy in the sense of saving trouble This is a serious mistake The new modes of treatment may make the art of medicine more efficient, but they do not call for less use of the intelligence, and, as we have already observed, the eradication of parasitic organisms is never in any case a matter of easy accomplishment, because they are all of them in their different ways well protected against disturbance, though the fact may not be apparent at first sight Were it otherwise there would be no such thing as a parasitic disorder We must all of us go about the business of specific therapy heedfully, undazzled by the promise of quick success which a novel remedy always seems at first sight to hold forth

Annotations.

"Ne quid nimis."

THE ADMINISTRATION OF THE PHARMACY ACTS.

THE annual report of the Registrar of the Pharmaceutical Society, which was presented to the council at the February meeting, contains *inter alia* an account of the work done last year in connexion with the administration of the penal clauses of the Pharmacy Acts, from which it is evident that the duty of preventing as far as possible the irregular sale of poisons is no light one. The number of cases of alleged infringement of the Acts which are reported and require investigation each year tends to increase rather than to diminish, but this is not necessarily because of greater laxity on the part of sellers of drugs, but partly because of the considerable growth in recent years in the number of persons who are entitled to traffic in poisonous substances. The number of names on the Pharmaceutical Register is fairly constant from year to year; the increase during the last decade has been considerably less than a thousand, the present Register consisting of the names of 16,330 persons. In 1909, however, a new class of poison sellers was created for the purpose of retailing, under a licence, poisonous preparations for use in agriculture and horticulture. The intention was that licences to sell such substances should only be granted to unqualified persons trading in districts where the existing facilities for obtaining them from chemists' shops were insufficient, but the local authorities which grant the licences have in many instances disregarded this intention, with the result that the sources from which potent preparations of arsenic and nicotine can be obtained readily are unnecessarily numerous. The work of supervising the distribution of poisonous compounds is therefore more onerous than it was prior to 1909. But the growth in the number of suspected cases of the irregular selling of poisons which the legal department of the Pharmaceutical Society has to investigate is not solely due to the increase in the number of poison-sellers, but is partly the result of other obligations imposed on the society by the Poisons and Pharmacy Act of 1908 and of the process of "speeding up" which is going on all round. This Act requires the certificate of qualification of the chemist by whom a pharmacy is conducted to be exhibited in every shop, and it is the duty of the legal department to ascertain if this requirement is being fulfilled. The report of the society contains no statement concerning the manner in which this regulation is being observed, but it is probable that among the reported cases of alleged infringement of the Acts were some in which the certificates were not exhibited. Last year a large number of shops were visited with the object of finding out if the certificates were exhibited, and since the Act came into operation practically all the pharmacies in the country appear to have been inspected. In the interests of the public this is a wise step to take, but, curiously enough, no public money is spent upon the work which the administration of the law relating to the sale of poisons and the business of the chemist entails. The report states that the number of pharmacists who are registered as superintendents of companies carrying on the business of chemists is 459, but as some of these companies have many branch shops it is not possible from the figures to calculate how many chemists' shops are under the control of joint-stock companies; it is common knowledge, however, that the number is increasing. During 1912, the year with which the registrar's report deals, 1362 cases of alleged infringement of the Act were investigated; this is an increase of rather more than 100 on the immediately preceding year, but compared with the year 1906 the increase is nearer 1000. It was only necessary, however, to institute proceedings in 238 cases last year, from which it may be inferred that the majority of cases reported were found on examination to have involved no irregular practice of more than a trivial nature. The class of offence which seems to be most common among unqualified persons is the dual one of keeping open shop for the sale of poisons and selling poisons; both practices are contrary to Section 15 of the Pharmacy Act, 1868, and the penalty for each offence is £5, recoverable through a county court. The use by unqualified persons of the statutory pharmaceutical titles is occasionally one of the offences committed, while the report shows that in several instances the council commenced proceedings against chemists who used the letters "M.P.O.," implying that they were members of the Pharmaceutical Society when such was not the case. Proceedings were also instituted against persons who had failed to observe proper precautions in selling scheduled poisons, but in the majority of cases the offenders were unqualified proprietors of drug stores. In eight cases of alleged infringement of the Acts it was found upon analysis that the poison asked for had been omitted from the preparations sold, and proceedings could not therefore be taken under the Pharmacy Acts. In three of these cases the vendors had sold compounds labelled "Paregoric" which contained no opium and were, therefore, not prepared according to the British Pharmacopœia; the vendors were proceeded against under the Merchandise Marks Act for applying a false trade description to goods and for selling goods to which a false trade description was applied and a conviction was obtained in each case. The report shows that the membership of the Pharmaceutical Society is steadily increasing; the society is now larger than at any period in its history.

THE ORIGINAL HUNTERIAN MUSEUMS.

THE examination of old museums is a fascinating if neglected branch of antiquarianism. The manner of acquisition of museum specimens is apt to be entirely overlooked by the makers of scientific catalogues, yet how delightfully such books would read if they were adorned with some such anecdotes as that which concerns the now extinct dodo. The dodo's feathered skin was brought to England by an old traveller and handed over to Sir John Tradescant, whose collection was afterwards known as the Ashmolean. In time it grew mouldy and was condemned to destruction in 1755 by some curators of a too exclusively classical education. Seeing the interesting relic on the already smouldering pyre, a passer-by cut off the dodo's head and one of its feet, and these, with another foot, a painting, a book illustration, and a few bones, are all we have now of the dodo. Again, there is the romance of how John Hunter acquired the skeleton of the Irish giant, placed in the Museum of the Royal College of Surgeons of England. The story is too well known to warrant re-telling, though the hearers of Sir Rickman Godlee's fascinating Hunterian Oration (see p. 507) were reminded of it when he pointed out on a well-drawn projection of Clift's plan of Hunter's Leicester-square house as it appeared in 1792 the discreetly private side door, "where Mr. Huger met the Irishman." Huger was doubtless Hunter's man, and "the Irishman" was the corpse of Mr. Byrne, the giant, dead of drink and consumption at the early age of 24. In his haunting fancy "The Child in the House" Walter Pater has described the potency of early domestic memories in the formation of an individual's psychic content. Clift was only a poor lad when in 1792 he came to work under John Hunter's directions in the original Hunterian Museum, and at a distance of 40 years we find the pathetically faithful servant, now become conservator, able to sketch from memory at dead of night—his tiny pretty plan being dated 2 A.M., Nov. 1st, 1832—every little detail in the once-adored museum house. Thus he has set down such delightful trifling matters as the situation of Mrs. Hunter's sedan-chair, of Mr. Hunter's "afternoon bedroom or sofa bed," "great red japanned army chest" between the windows of the "House pupils' room," pictures such as "Harlot's and Rake's Progress," drawbridge, yard for washing whale and carriage, and books, prints, and "dry preps. pathological." The plan gives a good idea of an eighteenth century museum, and we are struck by certain very modern touches. Thus, Hunter's desk was of the slide-top kind, and the theatre and other rooms were warmed—very badly, says Clift—by hot air from two of Jackson and Moser's stoves. Of the backyard it is recorded that "no grass grew," and that it was called "the garden"; there were also deep areas, as there might be now. Clift has left one of his careful MSS., containing minute details as to the expense of shifting the Hunterian Museum in wagons from Leicester-square to Lincoln's Inn Fields. Another of his small sketches represents the Museum in 1810. This was admirably reproduced on a large scale to illustrate the Hunterian Oration this year, and though it shows dignified vistas of vaulted roofing it is hard to discover where the specimens were shown. We know, however, that Clift devoted his laborious life to the setting out of the fine Hunterian specimens, contained in red-stoppered bottles, of which there remains Clift's MS. list. The same indefatigable worker alludes, in his curious unpublished year books of work done, to a forgotten function of the College, the fitting out of the scientific side of several famous Arctic expeditions. Of these expeditions only printed records remain in the College library, but at the present time it would be of great public interest if any relics of Ross, Franklin, and others could be unearthed and exhibited. Captain Cook's little MS. log-books, for instance, now form part of the priceless Marsden Library at King's College, London. In these appears the list of the names of the crew of Cook's ship according to the Otahitian pronunciation. The Captain himself figures as "Tute," and by this name recent travellers tell us he is still known by the descendants of the men who murdered him because they loved him so well that they wished to retain his divine ghost in their midst. Museums and libraries, in fact, are romantic through the associations of their contents, among which lurk unconsidered details often strangely confirmatory of fact observed at the ends of the earth.

UNUSUAL ILLNESS AMONG WEAVERS OF COTTON CLOTH.[1]

CASES of primary aspergillosis are very rare, and in an account of illness affecting weavers in four sheds in Lancashire Dr. E. L. Collis suggests that this was the most likely cause. The symptoms developed very acutely with febrile disturbance, asthmatic attacks, and characteristic cough. The process common to all the weaving sheds in question differed from the usual manufacture of cotton cloth in that addition of the antiseptic zinc chloride (usually added to prevent occurrence of mildew on the cloth at a later stage) was omitted, as dyers specify that no chlorides shall be present in the cloth. Obviously cotton threads passed through size and quickly wound, while still containing moisture, on to the warp beam, furnish conditions favourable to the development of moulds. Under such circumstances mildew is not infrequently seen, but in these cases more attention seems to have been given to the unpleasant odour given off from some of the warps, suggesting the possibility of the liberation of gas, than to the isolation of the fungi present. (Di-ethyl-arsine liberated when penicillium brevicaule grows on arsenical wall-papers is an example quite to the point.) Neither the symptoms among the weavers nor chemical analysis, however, lent support to the view that injurious gases were a cause of the trouble. No unusual mould was found in the sputum, so that it is only by inference that the theory of aspergillosis was arrived at. The remedy for the condition which has proved effective—addition of formaldehyde to the size—also favours it. Primary pneumomycosis is noted by Rolleston and Latham, in accordance with the description of Chantemesse and Widal, as an occupational disease among two very small classes of persons in Paris: (1) those making a bolus of seeds in the mouth as a preliminary to artificially feeding pigeons; and (2) hair sorters who inhale the flour of rye used to enable them to separate the hairs more readily. Both aspergillus fumigatus and aspergillus niger are parasitic and believed to produce morbid changes in the human body. In this connexion a remarkable account is given in the December issue of the *Journal of Hygiene* by G. Massee, of the Jodrell Laboratory, Kew Gardens, of a fungus, cladosporium herbarum, which produces black spots on the surface of chilled meat. In its adaptation to this unusual substratum the fungus has so far departed from the normal type of species that the typical form of reproduction by spores has been abandoned and has been replaced by a secondary and lower form of reproductive bodies—chlamydospores—immersed in the substratum produced from specialised cells of the vegetative hyphæ of the fungus.

DWARFISM ASSOCIATED WITH DYSTROPHY OF BONES AND MUSCLES.

ABOUT a year ago M. Hutinel, of Paris, gave a description of a peculiar form of retardation and perversion of growth which he had been able to separate from the crowd of indefinite cases of malnutrition attending his hospital clinic. Since that time—indeed, within a few months—Dr. Leon Tixier and Dr. Carle Rœderer have observed four examples of this form of dwarfism, which are briefly recorded, with a summary of the chief features of the condition, in *La Presse Médicale* of Feb. 1st. Three of their four patients were members of one family—indeed, of the same generation of that family; their mother showed traces of bony abnormalities similar to those exhibited in grosser form by her children. The most obvious of these abnormalities is inadequate stature, the patients falling short of the average height by 10 or 20 per cent. This is partly due to curvature of the long bones and of the spine, partly to retardation of the ossificatory process by the abnormal state of the diaphyseal cartilage. The first symptom noticed, however, is difficulty in learning to walk; this is accompanied by an antero-external curvature of the tibiæ. In the arms a similar deformity is present, though it is less pronounced. The femora and humeri are also curved outwards, and there is marked genu valgum. Scoliosis is a constant and striking feature; with it there is a lordotic curve in the lumbar region, and the usual secondary changes in the thorax and pelvic and pectoral girdles. In these as well as in other respects the bony changes closely resemble those of rickets; as in the commoner disorder, there are epiphyseal thickenings, and the frontal bones are prominent. Radiographic examination, however, reveals several features which seem to hint at a different type of morbid process being responsible. There are evidences of attempts at repair, the concavities of some of the curves being reinforced by thickening of the bone. The medullary canal of the long bones is large, as in rickets; but its outline (as seen in the radiograph) is irregular, as in syphilitic osteitis. In the cases recorded by Dr. Tixier and Dr. Rœderer the Wassermann reaction was negative, and there was no reason to suspect a syphilitic basis. In one important respect the skiagraphic appearances recall those of osteomalacia; the shafts of the long bones cast a stippled shadow, apparently due to a disorderly commixture of non-calcified with normal areas. The muscles are generally weak and exhibit a diffuse dystrophy; this is too definite to be regarded as a result of the child's immobility, and must be looked upon as a primary feature of the disorder. The intellect is often feeble, and the evolution of the mental powers retarded; in one case there was obesity, in others the children were wasted. In one instance sexual development was delayed. Apart from the possibility of the hereditary factor alluded to above, nothing is clear as to the causation of this singular affection; neither has there been any appreciable benefit from any particular line of treatment. It is possible, of course, that other critics may find the separation of this condition from rickets an arbitrary and unjustifiable one; yet in its later development and in some other features its claim to individuality does appear reasonably well founded.

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[1] Report on Unusual Illness among Weavers of Cotton Cloth. By E. L. Collis, M.B. Oxon., H.M. Medical Inspector of Factories. London: Darling and Sons, Limited. 1913.

A FLANNELETTE BILL.

A BILL has been introduced into the House of Commons and read for the first time, entitled "A Bill to deal with Misdescription of Fabrics," the object of which is to prohibit the sale of flannelette or any other textile fabric described as being non-inflammable or safe unless it conforms to such standard of non-inflammability as may be prescribed by regulations to be made by the Secretary of State. It may be remembered that in 1910 a report was issued by a Home Office Departmental Committee upon the inquiry into the question of the danger arising from the sale of flannelette for articles of clothing, and legislation was recommended making it penal to describe as uninflammable material which will not stand certain prescribed tests. The Bill is based upon this finding, although the Departmental Committee expressed the opinion that the question of misrepresentation could be dealt with under the provisions of the Merchandise Marks Act, 1887. It has since been decided, however, that a separate Bill was necessary, as there were difficulties in the way of including a special matter such as that of the inflammability of fabrics in any existing Act. The question as to whether or not a fabric is safe or non-inflammable can, of course, only be decided by test, and this means the setting up of a standard, and here there will be some trouble in regard to getting a general endorsement from all concerned as to its efficiency or fairness. We ourselves made an attempt to lay down a standard method of testing which we considered would, if adopted, afford sufficient protection. It is required to know, in our opinion, what is safe and not what is non-inflammable, and that consideration led us to employ a test which may have passed inflammable materials, but which readily discriminated the reasonably safe from the obviously dangerous. The ordinary linen or calico night garments are, of course, inflammable, but their liability to catch fire and the spread of the flame is not of the alarming nature experienced with the common forms of flannelette. But there are superior flannelettes which are as reasonably safe as linen or calico. The Departmental Committee referred to were adverse to certain suggestions which had been made in favour of precipitate and drastic legislation, for they held that "legislation of the kind suggested is the less justifiable in view of the fact that matters may in course of time be expected to right themselves." Again, they reported that "great improvement has already been made in the manufacture of flannelette, and further improvements may be anticipated"; and finally, they expressed the opinion that "there is also the possibility that new and cheaper methods of diminishing the inflammability of the material may be discovered." It is, we think, unquestionably the case that the cheap and clearly unsafe flannelette has been responsible for bringing disaster to many helpless little ones, and the fact that such flimsy material can be sharply discriminated from the reasonably safe fabric should render the adoption of a protective test conducted under practical conditions feasible, workable, and fair. With a standard imposed, we think that good will come of the Bill, for it is obvious that the manufacturer who is not honestly able to stamp his goods as "safe" will eventually have to make room for those who can.

NON-MALIGNANT CANCER OF THE BREAST.

THAT cancer is a progressive disease leading to death, except when it has been completely extirpated by operation, is so generally true that the exceptions are overlooked. Many well-authenticated cases of spontaneous recovery from cancer are now on record, and the possibility of this occurring is forgotten by those who claim recovery from some medicinal treatment. Another and even less recognised exception to the rule that cancer is a fatal disease is the condition called "non-malignant cancer," an expression which at first may seem a contradiction in terms, but the meaning of which will be plain if it is remembered that it is the structure of a growth and not its destructive effects which determines whether it is to be classed as a cancer or not. Some years ago at the Pathological Society of London Dr. S. Bontor reported, under the title of "Non-malignant Cancer of the Breast," the case of a woman who died at the age of 77 years, and had a growth in the left breast for 23 years.[1] It never ulcerated or caused pain, but latterly there had been some inconvenience from a sense of constriction of the chest. There were several secondary deposits in the right breast and in the skin of the abdomen, but there were no enlarged glands or signs of involvement of distant organs. The cancerous nature of the growth was proved by both macroscopic and microscopic appearances. In the discussion which followed Sir Watson Cheyne referred to a case in which a similar condition had lasted for 14 years and then a sudden outburst took place. Mr. C. A. Ballance mentioned the case of a woman who at the age of 70 developed carcinoma in both breasts. The disease had no effect on her general health and she did not die until the age of 82. He pointed out that carcinoma supervening in the aged is of slow growth. In the *Australian Medical Journal* of Dec. 28th, 1912, Dr. M. Crivelli and Dr. A. J. Trinca have reported a case of carcinoma of the breast of 47 years' duration. The patient was a married woman who since the beginning of the disease has been under medical observation. At one time the growth was declared inoperable and she was told she had only a short time to live. She came under Dr. Crivelli's care 20 years ago. She stated that she first noticed a lump in the right breast 27 years before. It commenced in the region of the nipple as a hard nodule which grew very slowly for about 10 years and never became very prominent. During the next 35 years it remained more or less quiescent, a process of growth and scarring taking place During this time she enjoyed fairly good health Then without apparent reason rapid growth towards the subclavicular region commenced in January, 1910, and glandular infection was observed, first in the axilla and then in the neck and mediastinum, rapidly producing complete brachial paralysis and two months later dysphagia Inability to swallow even small quantities followed and she died from inanition on June 9th 1912, at the age of 93 years and 11 months *For 35 years the condition presented was* a prominent central nodule in the breast with a smaller circle immediately surrounding it The right arm was fixed at all the joints, the forearm and wrist being in a position of marked flexion and the skin shiny and atrophic The arm was completely paralysed and anæsthetic except in the area supplied by the ulnar nerve, which was hyperæsthetic *and hyperalgesic Microscopic examination of* portions of the growth removed after death showed that the older portions consisted of large tracts of degenerated poorly staining fibrous tissue with occasionally small groups of what appeared to be carcinomatous cells in lymph spaces The more rapidly growing portions were more cellular There never was any doubt as to the cancerous nature of the tumour, for although for many years there was no glandular involvement there was from the beginning dense adhesion to skin and underlying structures The case shows well how a prognosis based on the general course of a disease may be falsified It breaks the record of all published cases of mammary cancer of long duration In addition to the cases mentioned above durations of 15, 17, 20, and 32 years have been recorded

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[1] THE LANCET, Dec. 8th, 1900, p. 1652.

WOODHALL SPA WATERS

THE waters of Woodhall Spa, in Lincolnshire, are unique in the fact of containing important quantities of bromine and iodine, chiefly in the form of bromide and iodide with, it has been stated, some amount of bromate and iodate A recent analysis of these waters has been made by Dr J C Thresh, who records some interesting observations in regard to the methods adopted in analysis which presented some difficulties, and to the variations which occur in the amount of bromine and iodine in the water taken from different adits Not only did the iodides and bromides vary, but the chlorides and sulphates also and especially the latter Some samples contained a mere trace of sulphates, others a large quantity, hence the composition of any particular sample would depend upon the proportion in which these adit waters were mixed There is one constituent of most of these adit waters which has not yet been recorded and which is the cause of all the difficulties which arise in making the analyses This is nitrous acid, no doubt existing as sodium nitrite It is a very variable constituent, sometimes present in infinitesimal quantity and at others present in abundance In the Royal Hotel water neither free iodine nor any iodate was detected and the iodine as iodide has varied from 2 0 to 2 4 mlgr per litre There is a trace of bromate, and the bromine as bromide has varied from 39 7 to 43 36 mlgr per litre In other words, there is apparently less bromine present than is stated on the label, and only about one tenth of the iodine Whatever the composition of the water may have been at some previous period it certainly, judging by Dr Thresh's examination, differs greatly at the present time from the composition as stated on the label The Spa Company's water does not pretend to contain such considerable quantities of iodine, yet actually it is richer in both iodine and bromine than the hotel spa water now being supplied in bottles The mean of two concordant analyses of the Spa Company's water gave iodine as iodide and iodate 6 0 stated on label 5 87 mlgr per litre, bromine as bromide and bromate 76 6, stated on label 33 75 mlgr per litre Samples from the various adits in this well examined a short time ago gave iodine varying from 3 3 to 6 3 mlgr per litre and bromine from 46 5 to 65 8 mlgr per litre One of the adits yielded a water containing a large quantity of sulphates, in this respect resembling the water from the Royal Hotel well, but the others contained mere traces of these salts As Dr Thresh points out, it may be of importance to the profession to know which of the wells yields the more highly charged water, and the desirability of amending the statements of the labels on the bottles is obvious The results of the analysis convey no imputation whatever—they simply prove the extreme difficulty of defining natural mineral waters by permanent formulæ

GONOCOCCAL SEPTICÆMIA

IT is only within recent years that it has been recognised that the gonococcus is capable of causing a general infection of the blood, a septicæmia, comparable to the results of the attacks of streptococci and staphylococci The affection appears to be rare, if we may judge from the recorded cases, though it is not improbable that it occurs more frequently than diagnosis would suggest and that many of the cases of septicæmia of obscure origin are really gonococcal In the present number of THE LANCET Dr Claude B Tudehope records a case of this nature (under the care of Dr J Aldington Gibb), in which there was a blood infection as shown by the symptoms, and with it was associated a gonococcal urethritis That the pyæmic or septicæmic condition was due to the gonococcus was probable from the presence of a gonococcal urethritis, but the causal connexion was shown by the effect of the treatment with a gonococcal vaccine It would, perhaps, be well that other obscure cases septicæmic in character, should be specially examined for the gonococcus in the usual sites such as the urethra and the vagina and also in the blood The extreme frequency of gonorrhœa makes it not improbable that many cases of blood infection arising from the inflamed mucous membrane are not diagnosed as gonococcal in origin

THE ANNUAL CONGRESS OF THE ROYAL INSTITUTE OF PUBLIC HEALTH

THE Twenty first Annual Congress of the Royal Institute of Public Health will be held this year in Paris, from May 14th to 18th inclusive, upon the invitation of the municipal council A French organisation committee has been *formed representative of the great departments of* State under the presidency of Professor Landouzy, Dean of the Medical Faculty, and the honorary presidency of M Steeg, Minister of the Interior The Minister of Foreign Affairs, in extending his patronage to the congress has directed the special attention of all other interested departments in particular the Ministries of War and Marine, to the "great importance of participation in the work" The meeting will be held in five sections viz —(1) State Medicine, (2) Bacteriology and Comparative Pathology, (3) Eugenics and Child Study, (4) Naval Military, and Colonial, and (5) Industrial Hygiene Facilities will also be afforded for visiting the various public health and educational institutions in Paris Invitations to appoint delegates have been sent to all the municipalities in this country, county councils, local authorities, universities, learned societies and other public bodies and these invitations have met with cordial response. The meeting last year in Berlin was most *successful and it is* anticipated that the further opportunities which will be given this year to members of the congress for becoming practically acquainted with continental institutions will ensure a like result. All communications on the subject should be made to the honorary secretary-general of the congress, Royal Institute of Public Health, Russell-square, London, W.C.

OCCLUSION OF THE INFERIOR VENA CAVA AS A RESULT OF INTERNAL TRAUMA.

At the Pathological Section of the Royal Society of Medicine on Tuesday last Mr. S. G. Shattock recounted the extraordinary case of the late Dr. W. Rivers Pollock. Dr. Pollock, the late obstetric physician to the Westminster Hospital, as was well known to his friends, lived for 25 years with occlusion of the inferior cava, and bequeathed to the Royal College of Surgeons of England for dissection the parts involved. In 1884 Pollock, when about 24 years of age, ran successfully for Cambridge against Oxford in the 120 yards hurdle race, the time being given as 16 seconds.[1] He held his breath the whole time of the race, and immediately after the struggle lay down on the grass. Œdema of the legs supervened at once. He kept his bed for six months, during which time progressive dilatation of the superficial veins occurred. During the rest of life the distended veins were supported by the systematic use of elastic pants. Death took place from tonsillitis and septicæmia 25 years later. The dissection showed a complete obliteration of the inferior cava below the hepatic veins. The most probable view of the lesion was, in Mr. Shattock's opinion, that under the abnormal distension to which the vein would be subject some rupture of the inner coats occurred; that this was followed by an intramural extravasation whilst the exertion was still in progress; and that, as a result, when the pressure was relieved the calibre of the cava would be reduced and clotting extend into the lumen so as to complete the occlusion. It was characteristic of Pollock that he should desire that science should have the benefit of any lessons that could be drawn from the physical tragedy of his life; and Mr. Shattock's account of the pathology of his case will bring back to the memory of Pollock's many friends his splendid courage under his terrible ordeal.

RAPID MIGRATION OF A FOREIGN BODY IN THE HAND.

It is well known that small metallic foreign bodies lodged in the tissues may migrate from one place to another. Well-authenticated cases have been recorded of needles which had been swallowed being removed, after longer or shorter periods, from various parts of the body, including the extremities. As a rule fragments of needles which have passed through the skin do not move far, though muscular action or pressure from without may cause some migration. The following case, recorded in the *Boston Medical and Surgical Journal* recently, by Professor A. Lothrop, of the Harvard Medical School, is exceptional in the rapidity and extent of the migration. While dusting, a young woman wounded her hand with a needle which broke. She removed a fragment and went next day (Dec. 2nd, 1911) to the Boston City Hospital. There was a puncture on the palmar aspect of the thumb at its base. A skiagram showed a fragment of needle about a third of an inch long embedded in the tissues anterior to the semilunar bone. There was no clinical evidence of this location, which was considerably internal to the point of entrance. On Dec. 8th, prior to operation, a second skiagram was taken. This showed a fragment of needle, of the same size and shape as seen about a week previously, anterior to the distal end of the first phalanx of the little finger. There were no symptoms or signs indicating this new position of the foreign body or the fact that it was no longer in front of the semilunar bone. A median longitudinal incision about half an inch in length was made over the middle phalanx and carried through the fascia to the tendon sheath, but the fragment could not be found. The sheath was opened and the fragment was easily found lying loosely on the tendon. Uninterrupted recovery ensued. The wound of entrance showed that the fragment of needle, about one-third of an inch long, entered the radial side of the palmar aspect of the base of the thumb. Forty-eight hours later it was at about the same horizontal level on the ulnar side, and a week later it was in front of the first phalanx of the little finger. Dr. Lothrop thinks that its course must have been through tendon sheaths. The case shows the importance of taking a skiagram shortly before attempting the removal of a foreign body, which should be located by plates taken in two planes. Occasionally surgeons have much trouble in finding buried needles, and frequently they have, to their chagrin, been compelled to abandon the search.

A special meeting of Fellows of the Royal Society of Medicine will be held at the society's house, 1, Wimpole-street, W., on Monday, March 10th, at 5 P.M., when a discussion on Alimentary Toxæmia: Its Sources, Consequences, and Treatment, will be opened. The following opening addresses will be delivered on that day:—Dr. Hale White, General Survey; Dr. F. W. Andrewes, the Bacteriology of the Alimentary Canal; Dr. Vaughan Harley, the Toxins of the Alimentary Canal; Dr. Robert Saundby, Consequences and Treatment from a Medical Point of View; Mr. Arbuthnot Lane, Consequences and Treatment from a Surgical Point of View; Mr. J. F. Colyer, Consequences and Treatment from a Dental Point of View. The discussion will be reopened by Mr. J. B. Lawford on Monday, April 14th, at 5 P.M., and will be continued on successive Mondays for as long as may be necessary.

On the suggestion of the High Commissioner for Cyprus the Secretary of State for the Colonies has arranged that a visit shall be paid to the island during March, by Sir Ronald Ross, late professor of tropical medicine in the University of Liverpool. The object of the visit is to investigate the causes of the prevalence of malarial fever in the island, and to advise in regard to the best means of combating the disease.

At a meeting of the Hunterian Society, held at St. Bartholomew's Hospital on Feb 12th, Mr. A. H. Tubby, the President, being in the chair, the annual oration was delivered by Dr. Edward W. Goodall on Serum Sickness.

The death has occurred of Sir Thomas Chavasse, F.R.C.S. Eng., for over 30 years surgeon to the Birmingham General Hospital.

We also have to record the death of Dr. A. B. Duffin, consulting physician to King's College Hospital, London.

Literary Intelligence.—Messrs. J. and A. Churchill are about to publish a new book entitled "The Difficulties and Emergencies of Obstetric Practice," by Dr. Comyns Berkeley and Mr. Victor Bonney, obstetric and gynæcological surgeons to the Middlesex Hospital. The illustrations are all original and very numerous. The same publishers have just ready the sixth edition of "A Short Practice of Midwifery," by Dr. Henry Jellett, master of the Rotunda Hospital, Dublin. The new edition is to be issued with a larger page, and has been revised throughout, and contains many new illustrations.

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[1] The Lancet, Oct. 16th, 1909, p. 1182.

ANNUAL REPORT (PART I.) FOR 1911-12 OF THE LOCAL GOVERNMENT BOARD.

THE first part of the forty-first annual report of the Local Government Board has recently been issued. Since 1907 these important Blue-books (which had previously appeared in a single bulky volume) have been issued in sections, greatly to the convenience of readers seeking information on particular groups of subjects.

Poor-law Administration and the Recommendations of the Royal Commission on the Poor-laws.

Part I., which is now before us, discusses the various details of Poor-law administration, and even a bare summary of these matters, though interesting, would be outside our scope. There are, however, two subjects which Mr. John Burns has treated with exceptional fulness, one of which relates to the altered conditions of medical relief, the other to the boarding-out of pauper children, both of which have a medical bearing. Moreover, the publication of the momentous reports of the Royal Commission on the Poor-law has invested with fresh interest whatever concerns the relief of the necessitous poor.

In a series of articles in THE LANCET of 1909[1] we discussed in detail the contents of the Majority and Minority Reports recently presented to Parliament. From a careful examination of the reports issued by the Board since that date, we gather that many of the weighty representations of the Commissioners have been treated by the department with the consideration to which they were obviously entitled. It was hardly to be expected that the President would promptly adopt those recommendations of the Minority Report which involve the unconditional transfer of the treatment of pauper sickness from the Poor-law to the public health authorities, although we believe that some such course will eventually be found to be the wisest, the most humane, and probably the most economical. The help required in [illegible] the community should be [illegible] of able-bodied destitution, [illegible] tail, directly or indirectly, the disability or disgrace ordinarily attaching to pauperism.[2] Already Parliament has indicated its partial acceptance of this principle by removing the disqualification for old age pensions which previously attached to receipt of relief from the rates. Mr. John Burns, in recording with satisfaction the substantial reduction of English pauperism in 1911 as compared with the previous year, attributes this state of affairs to the circumstance that from Jan. 1st of that year persons were no longer disqualified from becoming old age pensioners by reason of their having accepted Poor-law relief at some period since the beginning of 1908. He further states that, owing to the removal of this disqualification, a large number of persons had ceased to be chargeable to the guardians as paupers.

Altered Conditions of Medical Relief.

Although the total number of paupers in receipt of medical relief alone is not separately given, we learn that on the first day of last year 8061 men, 10,097 women, and 5250 children were receiving outdoor medical relief, as distinguished from other forms of so-called "public assistance." Of the indoor paupers on the same day 35 per cent. were under medical care in hospitals, infirm wards, or infirmaries. It is well known that the time-honoured "medical relief books" in use for Poor-law purposes are unsatisfactory, both for statistical purposes and as a means of recording particulars concerning the incidence and amount of pauper sickness. A new order was issued in 1911 establishing throughout England and Wales a uniform code of regulations governing relief. Among improvements of procedure we note the introduction of the "case paper system," the object of which is to secure to the guardians a complete knowledge of the circumstances of every applicant for relief. In the course of 1911 the Board issued special orders to certain of the metropolitan unions providing for the discontinuance of the medical relief book, and the substitution of "case papers" containing specified particulars as to the history, diet, and treatment of each case, the entries to be made by the responsible medical officer. Of this system, wherever it has been adopted, the reports are favourable. Thus, Mr. Gerald Hervey, H.M. Inspector, tells us, with respect to the Lowestoft Union, that "the case-paper system has worked extremely well, and from a financial standpoint has been a complete success." If the substitution referred to could be universally extended a valuable record of pauper sickness would shortly be available, which would materially advance the progress of preventive medicine.

Metropolitan Asylums Board.

The work of this institution is highly appreciated by Mr. John Burns, who claims its successful evolution as "an illustration of the applicability of the Poor-law to the demands of an increasingly complex civilisation, and of the advantages these attained in system and in economy." In criticism of this claim it should be remembered that the *personnel* of the [illegible] is altogether exceptional. The [illegible] the constitution of the aver[illegible] to be fairly comparable to that of the body in question would, we think, hardly be contended for by anyone. The report contains particulars of the accommodation provided for the treatment of sick children and of those suffering from ophthalmia, ringworm, and certain other diseases, as well as of the provision for open-air treatment of tuberculosis at Margate, Rutlington, and Carshalton.

Pauper Children: The Boarding-out System.

At the beginning of 1912 the aggregate of children under the care of guardians is stated to have exceeded 250,000. Of children supported in institutions to which paupers are admissible the number was 70,698, more than two-thirds of whom were fortunately housed in institutions other than workhouses or infirmaries. More than 10,000 outdoor pauper children were "boarded out," for the most part within the unions to which they are chargeable. In the present volume an interesting report appears from Miss Ina Stansfield, H.M. Chief Lady Inspector, from which it appears that by the end of the same year 540 boards of guardians had arranged for the supervision of boarded-out children, and that 98 salaried female visitors had been appointed to act under the instructions of the visiting committees which, to the extent of one-third, are composed of women. The difficulties of boarding out children within the districts to which they belong are once more forcibly illustrated by the experience of the year in question. The parents of such children are often undesirable, for they not only interfere with the children, but annoy respectable foster parents. It is remarkable how many parents or undesirable relatives manifest a sudden affection for their children immediately on their attaining a money earning age. They either entice them away from the custody of the guardians, or else, by their evil influence, counteract all the training the children may have received. The inspector recounts numerous instances of grave laxity on the part of those responsible for control of the conditions under which children are placed. These are often objectionable, and the frequent overcrowding of sleeping rooms is injurious both to health and to morals. Many of the conditions reported especially in respect of personal uncleanliness and the unwholesome sleeping arrangements of boarded-out children would have involved a public scandal had they occurred in a Poor-law institution.

Several instances are recorded where children excluded from school on medical certificate remain unprovided with the special treatment necessary for a cure. Among these are cases of mental defect, tuberculosis, anæmia, and epilepsy. The inspector judiciously remarks that unless children suffering in this way are promptly dealt with they are likely to be a long-standing charge on the rates, and also sometimes to act as centres of infection. It is not to the advantage of such children that they should be boarded out.

WORTHING HOSPITAL.—An anonymous gift of £1000 has just been made to the Worthing Hospital, and together with the legacy left by Alderman Cortis of £2000 the financial liability—except for upkeep and maintenance—in connexion with the new out-patients' department has been liquidated. The department is Worthing's memorial to King Edward.

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[1] Vide THE LANCET, vol. i., 1909, pp. 553, 663, 706, 782, 859, 935, 942, 1065, 1363.

[2] Vide THE LANCET, March 27th, 1909, p. 936.

NATIONAL INSURANCE IN ROUMANIA.

(From a Correspondent.)

Roumania has now joined the ranks of European countries which possess a system of compulsory insurance for the benefit of the working classes. The new Roumanian law is intended to regulate the position of workmen and artisans, and also to provide a system of small credit, while the second part of the measure is devoted to the introduction of a triple form of industrial insurance largely modelled on the German system. Three distinct forms of compulsory insurance are to be created—insurance against sickness, insurance against accidents, and provision for old age. The State is to bear the cost of administration, but will only contribute towards the cost of old age and disablement pensions.

Scheme of Insurance Against Sickness and Accidents.

Insurance against sickness will be compulsory for all workmen belonging to the various classes of occupation to be created by this law, and it is estimated that about 141,000 persons, including foremen, will fall within its scope and will become members of the one uniform sick club for the whole kingdom. The whole of the contributions will be defrayed by the insured, the employers being compelled to deduct the amount from each worker's wages weekly and stick a stamp of the corresponding value on his insurance card. The contributions vary according to the wages of the insured person, there being five different wage classes. The benefits promised are as follows:—Free medical attendance and free medicine in the case of sickness; from the third day of illness sick pay for a period not exceeding 16 weeks. In the case of heads of families the sick pay will amount to half the average wage of his class, or one-quarter of this amount should he undergo treatment in a hospital. At the death of an insured person his relatives will be entitled to a burial grant. In addition to the above direct benefits the wives and children of the insured are also entitled to free medical attendance, while maternity benefit, in the shape of free medical attendance and free medicine, will be given to the wives of insured persons. Disputes arising between the insured and the sick club are to be settled by a court of arbitration to be appointed in every district and consisting of three arbitrators—viz., one employer, one workman, and the chairman of the local law court.

The scheme of insurance against accidents is an almost exact replica of the German law. The owners of enterprises employing steam, gas, or electricity as a motive power, builders, owners of quarries, railways, mines, saw-mills, &c., form collectively an assurance corporation, including all their workmen, and the entire cost of this branch of insurance is defrayed by the employers, who contribute according to the number of employees, wages paid, and degree of danger of each occupation. In the event of an accident occurring to a workman in their employ, he is entitled to free medical attendance, and should he be entirely incapacitated for work a pension amounting to two-thirds of his earnings will be paid to him for life out of the common fund of the employers' association. Should he be quite helpless and require constant care, the pension may be so increased as to equal his full wages before the accident, while in the case of partial disability the amount paid out is to be correspondingly reduced. Should the accident lead to death, the relatives of the deceased worker are entitled to a burial grant of £4. The widow will receive a pension amounting to one-fifth of her deceased husband's average wage; another one-fifth is to be added for every child under 16 years of age for whom the widow has to provide.

Medical Treatment.

As regards the medical treatment of the insured, it must be borne in mind that in Roumania the entire cost of the upkeep of the hospitals, including the remuneration of their medical staff, is defrayed by the State, and that every person, regardless of religion or nationality, is entitled to free medical treatment in the hospitals, many of which were founded during the past century by wealthy boyars. It is in these hospitals that the insured will receive treatment.

In Bucharest a special organisation has been created for the medical treatment of the insured. The city has been divided into five districts, in each of which there are four doctors who have a purely consulting practice, the insured coming to them during certain fixed hours (two hours daily); in addition, three doctors are available in each district for visiting the insured in their homes, while the services of ten specialists, with fixed consultation hours, have also been secured. It is interesting to note that the list contains the names of no less than six women practitioners, entrusted with the treatment of female persons, out of a total of 35 "panel" doctors. These medical practitioners receive a monthly remuneration of from £8 to £10, regardless of the number of patients treated by each.

Contributions and Benefits.

The weekly contributions paid by the workers for insurance against sickness vary with the wage class to which the insured belongs, and amount to ½*d.*, 2*d.*, 3*d.*, 4½*d.*, and 6*d.*, according to the wage class. The sick pay amounts to 50 per cent. of the worker's wages, in the case of married men, and to 35 per cent. for bachelors. After confinement a female insured person receives sick pay during a period of six weeks. In the event of the death of an insured person his relatives are entitled to a burial grant ranging from £2 8*s.* to £4, according to the wage class of the deceased. Towards old age and invalidity insurance, worker, employer, and State each contribute weekly the sum of 1½*d.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,764 persons, 8672 births and 5886 deaths were registered during the week ended Saturday, Feb. 15th. The annual rate of mortality in these towns, which had been 17·0, 17·3, and 17·2 per 1000 in the three preceding weeks, was again 17·2 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these towns averaged 16·6 per 1000, or 0·5 above that recorded in London during the same period. The death-rates last week in the several towns ranged from 7·0 in Enfield, 7·4 in Southend-on-Sea, 7·9 in Bootle, 8·0 in Wallasey, and 9·0 in Wimbledon to 24·9 in West Bromwich, 25·0 in Swindon, 28·2 in Wigan, 29·4 in St. Helens, and 29·9 in Stockton-on-Tees.

The 5886 deaths from all causes in the 96 towns were 10 fewer than the number in the previous week, and included 458 which were referred to the principal epidemic diseases, against 430 and 445 in the two preceding weeks. Of these 458 deaths, 217 resulted from measles, 79 from infantile diarrhœal diseases, 70 from whooping-cough, 53 from diphtheria, 23 from scarlet fever, and 16 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·3 per 1000, and coincided with that recorded in each of the two preceding weeks. The deaths attributed to measles, which had declined from 277 to 200 in the four preceding weeks, rose to 217 last week, and caused the highest annual death-rates of 3·0 in Stockton-on-Tees, 4·0 in Swindon and in Barrow-in-Furness, 5·2 in St. Helens, 6·3 in Wigan, and 7·5 in West Bromwich. The deaths of infants under 2 years of age referred to diarrhœa and enteritis, which had been 67, 65, and 75 in the three preceding weeks, slightly rose to 79 last week, and included 18 in London, 9 in Manchester, 5 in Birmingham, 4 in Portsmouth, 4 in Stoke-on-Trent, 4 in Liverpool, and 3 in Salford. The fatal cases of whooping-cough, which had been 81, 66, and 78, in the three preceding weeks, declined to 70 last week; 25 deaths occurred in London, 5 in Warrington, 4 in Liverpool, and 3 in Nottingham. The deaths attributed to diphtheria, which had been 47, 62, and 45 in the three preceding weeks, rose to 53 last week; 7 deaths were recorded in London, 4 in Birmingham, 4 in Bradford, 4 in Sheffield, 3 in Portsmouth, and 3 in Birkenhead. The deaths referred to scarlet fever, which had been 19, 17, and 29 in the three preceding weeks, fell to 23 last week, and included 3 in London, 3 in Manchester, and 2 in Brighton. The 16 fatal cases of enteric fever last week were equal to the average in the preceding six weeks; 3 deaths were registered in Stoke-on-Trent, 2 in Bolton, and 2 in Merthyr Tydfil.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospitals, which had steadily declined from 2112 to 1736 in the seven preceding weeks, had further fallen to 1701 on Saturday last; 196 new cases were admitted during the week, against 215, 209, and 209 in the three preceding weeks. These hospitals also contained on Saturday last 931 cases of diphtheria, 852 of measles, 320 of whooping-cough, and 40 of enteric fever, but not one of small-pox. The 1570 deaths from all causes in London were 71 in excess of the number in the previous week, and were equal to an annual death rate of 18·1 per 1000. The deaths referred to diseases of the respiratory organs, which had been 393, 447, and 373 in the three preceding weeks, rose to 443 last week, and were 3 in excess of the number recorded in the corresponding week of last year.

Of the 5886 deaths from all causes in the 96 towns last week, 214 resulted from various forms of violence and 511 were the subject of coroners' inquests. The causes of 42, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and its 14 suburban districts, in Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, Nottingham, and in 56 other smaller towns. The 42 uncertified causes of death last week included 13 in Birmingham, 5 in Liverpool, 3 in Coventry, and 2 each in Southport, Blackpool, Sheffield, Sunderland, and Tynemouth.

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns, with an aggregate population estimated at 2,260,200 persons at the middle of this year, 1177 births and 883 deaths were registered during the week ended Saturday, Feb. 15th. The annual rate of mortality in these towns, which had steadily increased from 17·3 to 20·8 in the five preceding weeks, declined to 20·4 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death rate in these towns averaged 19·3, against a corresponding rate of 16·6 per 1000 in the 96 large English towns. Among the several Scotch towns the death rates last week ranged from 13·5 in Kilmarnock, 14·6 in Paisley, and 17·6 in Hamilton, to 25·2 in Dundee, 26·1 in Kirkcaldy, and 26·7 in Motherwell.

The 883 deaths from all causes were 17 fewer than the number in the previous week, and included 65 which were referred to the principal epidemic diseases, against 74 and 88 in the two preceding weeks. Of these 65 deaths, 39 resulted from whooping cough, 14 from infantile diarrhœal diseases, 8 from diphtheria, 3 from measles, and 1 from scarlet fever, but not one from enteric fever or from small-pox. These 65 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·5 per 1000, against 1·3 in the 96 large English towns. The deaths attributed to whooping cough, which had been 40, 55, and 52 in the three preceding weeks, declined to 39 last week, and included 20 in Glasgow, 4 in Motherwell, 4 in Falkirk, and 3 in Edinburgh. The deaths of infants under 2 years of age referred to diarrhœa and enteritis, which had been 20, 5, and 10 in the three preceding weeks, further rose to 14 last week; 6 deaths were recorded in Glasgow, 3 in Dundee and 2 in Greenock. The fatal cases of diphtheria, which had been 13, 6, and 12 in the three preceding weeks, declined to 8 last week, of which number 5 occurred in Glasgow. Of the 3 deaths attributed to measles, 2 were registered in Motherwell and 1 in Edinburgh. The fatal case of scarlet fever was recorded in Aberdeen.

The deaths referred to diseases of the respiratory system in the 16 Scotch towns, which had been 188, 221, and 214 in the three preceding weeks, fell to 192 last week; 31 deaths were attributed to different forms of violence, against 31 and 34 in the two preceding weeks.

HEALTH OF IRISH TOWNS

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of this year, 635 births and 490 deaths were registered during the week ended Saturday, Feb. 15th. The annual rate of mortality in these towns, which had been 21·3, 20·4, and 20·9 per 1000 in the three preceding weeks, rose to 21·3 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death rate in these Irish towns averaged 21·3 per 1000; in the 96 large English towns the corresponding death-rate did not exceed 16·6, while in the 16 Scotch towns it was equal to 19·3 per 1000. The annual death rate recorded in the several towns last week was equal to 21·7 in Dublin (against 18·1 in London and 20·7 in Glasgow), 19·9 in Belfast, 29·2 in Cork, 19·1 in Londonderry, 17·6 in Limerick, and 26·6 in Waterford, while in the remaining 21 smaller towns the mean rate was equal to 20·7 per 1000.

The 490 deaths from all causes in the 27 Irish towns were 9 in excess of the number in the previous week, and included 35 which were referred to the principal epidemic diseases, against 30 and 41 in the two preceding weeks. Of these 35 deaths, 10 resulted from measles, 9 from infantile diarrhœal diseases, 6 from scarlet fever, 6 from whooping-cough, 3 from diphtheria, and 1 from enteric fever, but not one from small-pox. These 35 deaths from the principal epidemic diseases were equal to an annual death rate of 1·6 per 1000; in the 96 large English towns the death rate from these diseases did not exceed 1·3, while in the 16 Scotch towns it was equal to 1·5 per 1000. The deaths attributed to measles, which had been 17, 21, and 18 in the three preceding weeks, declined to 10 last week, and included 4 in Belfast and 2 in Newry. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 7, 5, and 9 in the three preceding weeks, were again 9 last week, and comprised 4 in Dublin, 4 in Belfast, and 1 in Londonderry. The 6 fatal cases of scarlet fever were 3 in excess of the average number in the six preceding weeks, and included 4 which were registered in Belfast. The 6 deaths attributed to whooping cough were slightly in excess of recent weekly numbers, and comprised 3 in Waterford, 2 in Dublin, and 1 in Belfast. The 3 deaths referred to diphtheria occurred in Dublin, Belfast, and Lurgan respectively. The fatal case of enteric fever was registered in Belfast.

The deaths referred to diseases of the respiratory system in the 27 Irish towns, which had declined from 135 to 104 in the three preceding weeks, rose to 115 in the week under notice. Of the 490 deaths from all causes, 147, or 30 per cent., occurred in public institutions, and 6 resulted from different forms of violence. The causes of 14, or 2·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

VITAL STATISTICS OF LONDON DURING JANUARY, 1913

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 5·3 per 1000 of the population, estimated at 4,518,191 persons in the middle of the year; in the three preceding months the rates were 6·8, 6·4, and 5·5 per 1000 respectively. The lowest rates last month were recorded in Paddington, Kensington, Chelsea, City of Westminster, Stoke Newington, and Holborn; and the highest rates in the City of London, Bermondsey, Deptford, Greenwich, Lewisham, and Woolwich. Scarlet fever continued last month to show a declining prevalence; among the several metropolitan boroughs this disease was proportionally most prevalent in Stepney, Bermondsey, Battersea, Greenwich, Lewisham, and Woolwich. The Metropolitan Asylums Hospitals contained 1717 scarlet fever patients at the end of last month, against 2242, 2250, and 2088 at the end of the three preceding months; the weekly admissions averaged 196 last month, against 303, 282, and 226 in the three preceding months. Diphtheria was rather more prevalent than it had been in the previous month; the greatest proportional prevalence of this disease was recorded in St. Pancras, the City of London, Poplar, Bermondsey, Greenwich, Lewisham, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 897, 917, and 959 at the end of the three preceding months, had declined again to 925 at the end of last month; the weekly admissions averaged 122, against 110, 124, and 120 in the three preceding months. The prevalence

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1913.

(Specially compiled for THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1913.	Notified Cases of Infectious Disease.												Deaths from Principal Infectious Diseases.									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,518,191	—	1077	709	—	84	—	28	375	8	6	2287	5·3	—	305	24	42	105	19	118	613	1·4	7319	17·8
West Districts.																								
Paddington	142,210	—	18	18	—	2	—	—	4	—	—	42	3·1	—	8	1	2	11	—	3	25	1·8	244	19·1
Kensington	171,284	—	35	10	—	1	—	1	18	—	—	59	3·6	—	15	1	2	5	—	5	28	1·7	310	20·4
Hammersmith	123,746	—	24	13	—	1	—	—	7	—	—	45	3·8	—	8	1	1	12	—	7	29	2·4	187	16·5
Fulham	157,117	—	41	14	—	3	—	1	13	2	—	74	4·9	—	10	1	—	3	—	4	18	1·2	219	15·2
Chelsea	64,598	—	9	4	—	1	—	3	3	—	—	20	3·2	—	3	1	—	2	—	1	7	1·1	102	17·1
City of Westminster	154,810	—	24	21	—	2	—	—	7	—	—	54	3·6	—	3	—	1	1	—	2	7	0·5	211	15·9
North Districts.																								
St. Marylebone	114,532	—	21	16	—	3	—	—	11	1	—	52	4·7	—	5	—	—	2	1	—	8	0·7	194	18·9
Hampstead	86,346	—	21	14	—	4	—	—	2	—	—	41	5·0	—	6	—	1	—	—	—	7	0·8	106	14·4
St. Pancras	214,330	—	48	42	—	7	—	1	14	—	—	112	5·4	—	6	—	5	2	2	3	18	0·9	368	18·7
Islington	325,585	—	71	43	—	9	—	2	15	—	2	142	4·5	—	14	3	3	4	3	11	33	1·2	529	17·6
Stoke Newington	50,518	—	8	3	—	—	—	—	1	—	—	12	2·5	—	3	1	—	—	—	—	4	0·8	75	16·2
Hackney	223,353	—	34	29	—	5	—	1	22	2	—	93	4·3	—	16	3	—	2	—	3	24	1·1	316	15·4
Central Districts.																								
Holborn	46,949	—	6	4	—	1	—	—	4	—	—	15	3·3	—	3	—	—	1	—	—	4	0·8	84	20·1
Finsbury	84,679	—	24	16	—	—	—	—	7	—	—	47	5·8	—	17	1	2	2	—	2	24	3·0	177	22·6
City of London	17,916	—	9	7	—	2	—	—	1	—	—	19	11·1	—	—	—	—	—	1	—	1	0·6	31	19·8
East Districts.																								
Shoreditch	109,654	—	13	8	—	5	—	—	15	3	—	44	4·2	—	26	1	—	3	1	8	39	3·7	261	26·0
Bethnal Green	127,824	—	17	16	—	1	—	1	24	—	1	60	4·9	—	21	—	1	2	1	10	35	2·9	256	21·1
Stepney	275,300	—	80	43	—	4	—	4	33	—	1	165	6·3	—	44	1	2	2	1	11	61	2·3	454	18·0
Poplar	160,913	—	40	37	—	4	—	2	15	—	1	99	6·4	—	20	2	3	1	—	3	29	1·9	245	16·4
South Districts.																								
Southwark	188,487	—	41	30	—	3	—	2	29	—	—	105	5·8	—	6	1	1	2	1	5	16	0·9	335	19·3
Bermondsey	124,739	—	56	28	—	5	—	2	20	—	—	111	9·3	—	1	—	2	2	—	5	10	0·8	237	20·3
Lambeth	297,139	—	73	26	—	5	—	—	15	—	1	120	4·2	—	8	1	3	3	2	9	26	0·9	485	17·5
Battersea	167,464	—	62	14	—	1	—	1	15	—	—	93	5·8	—	18	—	1	5	1	2	27	1·7	284	19·0
Wandsworth	330,395	—	77	45	—	6	—	2	11	—	—	141	4·5	—	26	1	1	2	2	6	38	1·2	425	14·1
Camberwell	261,805	—	57	28	—	2	—	1	26	—	—	114	4·5	—	11	2	—	13	—	12	38	1·5	443	18·3
Deptford	109,280	—	28	18	—	1	—	—	25	—	—	72	6·9	—	—	—	3	9	1	1	14	1·3	207	20·8
Greenwich	96,015	—	32	44	—	2	—	—	13	—	—	91	9·9	—	5	—	4	9	—	1	19	2·1	162	18·0
Lewisham	163,822	—	50	59	—	3	—	—	4	—	—	116	7·2	—	2	2	3	5	2	1	15	0·9	204	13·1
Woolwich	122,382	—	53	59	—	1	—	4	7	—	—	129	11·0	—	—	—	1	—	—	3	4	0·3	168	15·3
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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*Including membranous croup.

† The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

of enteric fever showed a slight increase over that recorded in the preceding month, among the several boroughs this disease was proportionally most prevalent in Hampstead St Pancras, Islington the City of London, Shoreditch, and Bermondsey There were 37 enteric fever patients under treatment at the end of last month against 54, 42 and 37 at the end of the three preceding months, the weekly admissions averaged 7, against 7, 5, and 7 in the three preceding months Erysipelas was proportionally most prevalent in Shoreditch Bethnal Green Stepney, Southwark, Bermondsey, Deptford, and Greenwich The 28 cases of puerperal fever notified during the month included 4 in Stepney, 4 in Woolwich 3 in Chelsea, and 2 each in Islington Poplar Southwark, Bermondsey, and Wandsworth The 8 cases of cerebro spinal meningitis included 3 in Shoreditch 2 in Fulham and 2 in Hackney, of the 6 cases of poliomyelitis 2 belonged to Islington

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided, the death rates for all causes are further corrected for variations in the sex and age constitution of the populations of the several boroughs During the five weeks ending Feb 1st the deaths of 7319 London residents were registered, equal to an annual rate of 17 8 per 1000, in the two preceding months 15 5 and 12 5 per 1000 respectively The death rates last month ranged from 13 1 in Lewisham 14 1 in Wandsworth, 14 4 in Hampstead 15 2 in Fulham, 15 3 in Woolwich and 15 4 in Hackney, to 20 1 in Holborn, 20 3 in Bermondsey 20 4 in Kensington, 21 1 in Bethnal Green 22 6 in Finsbury and 26 0 in Shoreditch The 7319 deaths from all causes included 613 which were referred to the principal *infectious diseases, of these 305 resulted from measles* 24 from scarlet fever 42 from diphtheria 105 from whooping cough, 19 from enteric fever and 118 from diarrhœa and enteritis among children under two years of age The lowest death rates from these diseases was recorded in the City of Westminster, St Marylebone Hampstead Stoke Newington, the City of London Bermondsey, and Woolwich, and the highest rates in Hammersmith, Finsbury Shoreditch, Bethnal Green Stepney and Greenwich The 305 deaths from measles were 104 in excess of the corrected average number for the corresponding period of the five preceding years, this disease was proportionally most fatal in Finsbury, Shoreditch, Bethnal Green Stepney Poplar, and Battersea The 24 fatal cases of scarlet fever were 14 fewer than the corrected average number and included 3 in Hackney 3 in Islington 2 in Poplar 2 in Camberwell and 2 in Lewisham The 42 deaths from diphtheria were 37 below the corrected average number, of these 42 deaths 5 belonged to St Pancras 4 to Greenwich 3 to Islington 3 to Poplar, 3 to Lambeth, 3 to Deptford, and 3 to Lewisham The 105 fatal cases of whooping cough showed a decline of 26 from the corrected average number, this disease was proportionally most fatal in Paddington Hammersmith, Deptford and Greenwich The 19 deaths from enteric fever were slightly in excess of the corrected average number, and included 3 in Islington 2 in St Pancras 2 in Lambeth 2 in Wandsworth and 2 in Lewisham The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Hammersmith Shoreditch, Bethnal Green Islington Stepney Bermondsey and Camberwell In conclusion it may be stated that the aggregate mortality in London during January from the principal infectious diseases excluding diarrhœa was 4 9 per cent above the average

THE SERVICES

ROYAL ARMY MEDICAL CORPS

Lieutenant Colonel David V O Connell is placed on retired pay (dated Feb 13th 1913)

Major Charles W H Whitestone to be Lieutenant Colonel, vice D V O Connell (dated Feb 13th 1913)

The undermentioned to be Lieutenants (on probation) (dated Jan 24th 1913) —Sumner Hugh Smith Francis James Cairns Henry Beddingfield, Frederick Churchill Davidson, John Forbes O Connell William Ormsby Wyndham Ball (late Cadet, Dublin University Contingent, Officers Training Corps), John Crocket, Humfrey Newnham Sealy, John Rowe, Stanley Dermott Large (late Cadet, Edinburgh University Contingent, Officers Training Corps) Edward Charles Beddows, George Eldridge Dyas (late Cadet Inns of Court, Officers Training Corps), Arthur Hamilton Bridges, Conyngham Vernon Thornton, Cyril Helm (late Cadet, London University Contingent, Officers Training Corps), William Pennefather Croker (late Cadet, Dublin University Contingent, Officers Training Corps) Lieutenant Aubrey Gardner Brown (from the Royal Army Medical Corps Special Reserve), Percival Dillon Warburton, Robert Hemphill, and Albert Jackson

Lieutenant James B A Wigmore, from the Seconded List, is restored to the establishment (dated Feb 1st, 1913)

The undermentioned Lieutenants are seconded under the provisions of Article 300 Royal Warrant for Pay and Promotion, 1909 (dated Jan 24th, 1913) Francis J Cairns, George E Dyas, and Percival D Warburton

Surgeon General H G Hathaway has taken up duty as Deputy Director of Medical Services in India on transfer from the Half pay List of the Home Establishment

Lieutenant Colonel J B Wilson, senior medical officer and commanding No 29 Company of the Royal Army Medical Corps at Jamaica has been selected for the increased rate of pay under Article 317 of the Royal Warrant for Promotion Lieutenant Colonel B Forde has been transferred from the Aldershot Command to the Southern Command and appointed to the Salisbury Plain District to hold charge of the Military Hospital at Bulford Camp Lieutenant Colonel E Eckersley, lately Deputy Assistant Director General Medical Division War Office has embarked for a tour of service with the Southern Army in India Lieutenant Colonel M P C Holt, D S O Honorary Surgeon to the Viceroy and Governor General of the East Indies, has been granted an extension of *his command of the Station Hospital at Kasauli to September* next

Major J H R Bond has taken over charge of the Military Hospital at Naini Tal Major H M Nicholls has arrived home on leave of absence from India Major B R Dennis has been appointed for duty in the London District Major A R O Flaherty has left the Military Hospital at Devonport for a tour of service in India Major H K Palmer has joined at Aden Major W M Power has arrived home from Jamaica tour expired Major E P Connolly has been appointed to the Military Hospital at Rawal Pindi Cantonment Major E W W. Cochrane has arrived home, tour expired Major E McDonnell has been appointed for duty to the Eastern Command Major F W Begbie has taken over command of the Station Hospital at Kamptee Cantonment Major H Ensor, D S O has been appointed Registrar at the Royal Herbert Hospital Woolwich Major T H M Clarke C M G D S O, has taken up duty as Surgeon and Physician to the Royal Hospital at Kilmainham, Dublin, and Medical Officer, Royal Hibernian School Major R F M Fawcett on arrival in Ireland from Jhansi Cantonment India has been placed under orders for duty in the Dublin District

Captain C Scaife has been transferred from the Military Hospital at Colaba Bombay to Belgaum Cantonment Captain A A Sutcliffe has taken up duty at Newport on transfer from the Military Hospital at Chester Captain A Dawson and Captain V C Honeybourne serving at Aden, have been placed under orders for duty on board the transport s s *Rewa* which left Karachi for Southampton on Feb 12th with time expired troops Captain J C Hart has arrived home for duty from North China Captain J H Gurley has been selected for appointment as Specialist in Ophthalmology to the Royal Victoria Hospital at Netley Captain A S Williams has been transferred from the Military Hospital at Khanspur Murree Hills District to Nowshera Cantonment Captain F B Dalgliesh has taken up duty at the Military Hospital Jubbulpore Captain F D G Howell has arrived home from India for duty, tour expired Captain C Kelly has been appointed to the Eastern Command Captain H S Dickson has arrived home on leave of absence from Gibraltar Captain A E S Irvine has embarked on board the transport s s *Rohilla* for duty on the voyage to South Africa and back Captain C H O Rorke has been transferred from the Military Hospital at Roorkee to Allahabad Cantonment for duty Captain J B Hanafin has taken up duty at the Military Hospital, Nowshera, on transfer from Peshawar Cantonment Captain J C L Hingston has been placed under orders for transfer from the Ninth (Secunderabad) Division of the Southern Army in India to Burma, and on arrival will be appointed Specialist in Dermatology and Venereal Diseases to the Burma Division. Captain J. A. Renshaw has been granted six months' leave of absence home from India. Captain J. F. Granted has taken up duty as Specialist in Electrical Science to the Burma Division at Headquarters, Maymyo Cantonment. Captain L. Wood has been appointed to hold charge of the Military Hospital at Hyderabad, Sindh. Captain A. S. Littlejohns has arrived home for duty from South Africa, tour expired. Captain J. J. O'Keefe, on arrival in India for a tour of service, has been appointed to the Seventh (Meerut) Division of the Southern Army. Captain F. Forrest has joined the Irish Command. Captain A. R. Wright has arrived home on leave of absence from the Military Hospital at Malta. Captain G. P. A. Bracken has been granted six months' leave of absence home from India. Captain E. C. Caddell has taken up duty at Brigade Headquarters, Karachi, as Specialist in charge of the Bacteriological Research Laboratory.

Lieutenant J. S. Levack has been transferred from the Military Hospital at York to Bradford for duty. Lieutenant W. T. Graham has taken up duty at the Military Hospital, Tidworth, Salisbury Plain, on transfer from Durrington. Lieutenant P. Hayes has embarked for a tour of service in India. Lieutenant W. L. Webster has been transferred from Kilworth Camp to Limerick.

INDIAN MEDICAL SERVICE.

Colonel R. B. Roe has taken up duty as Assistant Director of Medical Services to the Sirhind and Jullundur Brigades, Third (Lahore) Division, in succession to Colonel R. W. S. Lyons, transferred to Divisional Headquarters.

Lieutenant-Colonel R. H. Castor has arrived home on leave of absence from India. The services of Lieutenant-Colonel W. D. Sutherland have been placed temporarily at the disposal of the Government of Bengal Presidency for employment on special duty at the Medical College, Calcutta. Lieutenant-Colonel J. C. Hulbert has been transferred from the Central Research Institute at Kasauli on completion of special duty to Mutha. Lieutenant-Colonel H. S. Wood, civil surgeon at Rajshahi, has been granted privilege leave of absence.

Major W. R. Battye, residency surgeon at Mewar, has been granted privilege leave of absence. Major T. Jackson has been selected for appointment to the Medical Council in Bombay. Major H. Ainsworth, on return from furlough, has taken up duty as Professor of Ophthalmic Surgery at the Government Medical College, Lahore, relieving Lieutenant-Colonel E. V. Hugo of the additional charge. Major G. Browse has been granted an extension of his leave of absence home from India by the Secretary of State. Major C. H. Watson has taken up duty as Staff-Surgeon at Headquarters of the Derajat Brigade. Major S. H. Burnett has been selected for appointment as Superintendent of the Lunatic Asylum at Colaba, Bombay.

Captain D. G. R. S. Baker has been appointed Specialist in Ophthalmic Surgery. Captain F. C. Fraser has taken up duty under the Civil Administration in Madras Presidency. Captain C. H. Barber has been granted one year's extension of leave of absence on medical certificate. Captain S. H. Middleton West has arrived home on leave of absence from India. Captain R. T. Wells has taken up duty as Superintendent of the District Jail at Dera Ghazi Khan, in succession to Captain H. C. Keates. Captain N. W. Mackworth, officiating civil surgeon at Purnea, has been granted privilege leave of absence combined with study leave and furlough home from India for 15 months. Captain A. N. Thomas has been appointed to the substantive medical charge of the 105th Mahratta Light Infantry. Captain F. A. Barker has joined the Jail Department in the Punjab for temporary duty. Captain W. D. Keyworth has taken over officiating medical charge of the 110th Mahratta Light Infantry. Captain W. T. Finlayson has arrived home on leave of absence from India. Captain A. M. Jukes has taken up duty as officiating Deputy Sanitary Commissioner in the Metropolitan Circle, Calcutta. Captain N. M. Wilson has taken up duty as Plague Medical Officer at Shahpur. Captain J. M. A. MacMillan, civil surgeon at Hoshangabad, has been transferred temporarily to Jubbulpore on relief by Captain E. P. Wernicke.

Lieutenant V. P. Norman has been granted six months' extension of his leave of absence home from India on the recommendation of a medical board.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Captain Wilson Ranson is seconded for service with the Territorial Force (dated Feb. 8th, 1913).

The undermentioned Lieutenants to be Captains (dated Feb. 11th, 1913): William Darling and John M. Darling. The undermentioned Lieutenants are confirmed in their rank: Henry B. Parker and Robert D. Goldie.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Notts and Derby Mounted Brigade Field Ambulance, Royal Army Medical Corps: The undermentioned officers, from the list of officers attached to units other than medical units, to be Captains (dated Feb. 15th, 1913): Captain Alexander Tydd Mulhall and Captain Francis Raymond Mitchell Heggs.

Supernumerary for Service with the Officers Training Corps.—Lieutenant (Provisional Captain) Robert Davies-Colley (serving with the University of London Contingent, Senior Division, Officers Training Corps) resigns his commission (dated Feb. 19th, 1913).

For attachment to Units other than Medical Units.—John Orlando Summerhayes (late Lieutenant, 4th Battalion, The Oxfordshire and Buckinghamshire Light Infantry) to be Lieutenant (dated Feb. 8th, 1913).

Major R. J. Blackham, R.A.M.C., who has been associated with Colonel Roberts, I.M.S., in the treatment of His Excellency the Viceroy of India since the outrage at Delhi on Dec. 23rd, has been appointed Honorary Surgeon on His Excellency's Personal Staff.

Correspondence.

"Audi alteram partem."

WEISMANN AND LAMARCKISM.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Nov. 30th last there is a statement to the effect that Dr. A. M. Gossage at a meeting of the Harveian Society on Nov. 21st, read a paper on Heredity, in which the assertion was made by him that "Lamarckism, or the inheritance of acquired characters, must be regarded as disproved by the work of Weismann." But is that really so? and is the assertion by Dr. Gossage the result of an investigation by him of the teachings of Lamarck, or is it an assertion based on the *ipse dixits* of sundry biologists who fail to recognise the true teachings of Lamarck? I raise the question since I feel assured that to the physician will fall the duty, not alone of demonstrating the truths of Lamarckism, but also of bringing out of chaos the true factors at work in organic evolution and in heredity. Undoubtedly the work of Weismann is most important, since to him fell the rôle of demonstrating, once for all, how heredity is carried on and maintained in the organic world. But far from disproving the transmission of acquired characters, his work really cleared the way for the true understanding as to why and how acquired characters are transmitted.

What did Weismann really do? Following the suggestions of Nussbaum, he laid the foundation of his fame by demonstrating the continuity of the germ-plasm. He proved how, after division and subdivision of the zygote or fertilised egg, a colony of cells is formed out of which one only of the colony ultimately develops into a new organism; the other cells of the colony remaining undeveloped, constituting the germ-plasm, which becomes, in time, the sexual cells of the fully developed new organism. Hence the new organism becomes, as it were, a brother or sister of the previous organism, and not a son or daughter. This is, as I have said, the theory of the continuity of the germ-plasm on which the real fame of Weismann rests, and when we fully understand the process, we begin to realise the wonderful provision made by nature in order to secure that heredity shall be a process of true repetition of necessary characters. But Weismann, not content with demonstrating the continuity of the germ-plasm, went further and maintained that the germ-plasm was inviolable—i e, that it was impossible for it to be influenced or affected by any means In order to justify his position he was forced to postulate the theory that variations arose not alone through a mixing of the germ plasms of germ and sperm, but also that the inviolable germ plasm was imbued with an intrinsic power to vary *per se*—i e, that there was an inherent power within it rendering it capable of throwing out indefinite variations of varying qualities On that assumption he postulated the theory of the all sufficiency of natural selection Subsequently, however, he was forced to admit through the results of experiments by others that the germ plasm was not inviolable, but that it could be influenced by certain conditions in the environment That the germ plasm and its developments can be directly acted on by adverse conditions in the environment has been quite recently shown by Professor Adami in your pages Professor Adami brought together overwhelming evidence that alcohol other poisons, &c, do adversely influence the germ plasm and its developments A careful study of Professor Adami's address on Eugenics unto the Third and Fourth Generation will well repay any physician for his trouble

It will thus be seen that the difference between Lamarckism, or the theory that acquired characters are transmitted, and Weismannism resolves itself really into a question of degree, especially as regards direct influences It is most important to recognise that fact since the Lamarckian [illegible] tinuity of the germ [illegible] of the individual i[illegible] ut not always an exact repetition, since the living organism is capable of being modified through the changing influences of the environment, which influences if permanent are gradually transmitted and must appear even if unrecognisable, in the ontogeny Now although the direct injurious influences are transmitted through individuals as proved by Professor Adami there is no doubt that the direct inimical influences are in the long run, as seen in racial survival counteracted by an indirect reaction of a beneficial nature This is clearly seen as regards infectious diseases, adverse conditions of life, as in city life and is clearly demonstrated in the Styrians, the arsenic eaters This racial survival through adaptation is attributed to natural selection by an eminent writer Dr Archdall Reid But its explanation is far easier to the physician by recognising the fact that all living bodies in the presence of continuous inimical influences tend to protect themselves by elaborating an antidotal principle which ultimately by the educability of the cells, serves to prevent extinction and thus to lead to survival of a race There is a tendency amongst biologists to belittle the opinions of those who have not been trained in biological laboratories Such disparagement should however, have no influence in deterring physicians from studying the questions involved, since the very nature of their training and life work enables them to grasp facts relating to the living body

Biologists have become buried in the great accumulation of biological facts hence what is required is that any competent to do so should arrange and rearrange such facts and coordinate them with a theory by which all can be explained That can be done I hold by the theory that functional adaptation is brought about through the inheritance of acquired characters Perhaps it is well to draw Dr Gossage's attention to the fact that Nussbaum, who first formulated the theory of the continuity of the germ plasm regarded it as in no way militating against the theory of the transmission of acquired characters It was Weismann's strong belief in the factors of natural selection that misled him into believing that the continuity of the germ plasm is wholly operative against the transmission of acquired characters —I am, Sir, yours faithfully,

Barbados Jan 20th, 1913 R F LICORISH M D

DERMOIDS OF THE KIDNEY

To the Editor of THE LANCET

SIR,—In THE LANCET of Feb 8th I notice a clinical lecture by Mr Jocelyn Swan on renal tumours in the course of which he says "There have been recorded only two cases of dermoid of the kidney

It is quite true that even in the latest monographs on renal tumours little or no reference is made to the occurrence of dermoids in this organ and by some authors their occurrence here is denied As, however, I know of several cases besides those instanced by Mr Swan, it seems desirable that pointed reference should be made to this matter, with the view of clearing up erroneous beliefs in the contrary sense which have an important bearing on the pathogenesis of dermoids in general For instance, it has been alleged that dermoids are never found growing primarily from any part or organ of the abdomen save the ovary and on this erroneous basis ovarian dermoids have been presumed to be quite different in origin from dermoids in general

Another point which merits attention in this connexion is Paget's case of renal dermoid Most authors who have cited this case have like Mr Swan referred to it as a human specimen whereas it is from a sheep The specimen is in the Royal College of Surgeons Museum (No 1904 of the pathological series) a piliferous dermoid embedded in a mass of fat which had replaced one of the kidneys of which there was no trace Other cases of renal dermoids besides the Haeckel Wedemann one referred to by Mr Swan have been recorded by Gol[illegible] Rider Thompson[2] and Madelung Schlegtendal[3] [illegible]

In Goldsmith's case the dermoid was subcapsular and intimately blended with the upper pole of the right kidney It was piliferous and comprised a tooth In the Madelung Schlegtendal case the calcified dermoid seemed to occupy the place of the right kidney, of which the only trace discoverable was a thin layer of its substance blended with the cyst wall In the Rider Thompson and Haeckel Wedemann cases the dermoids seem to have been let into the renal substance in the vicinity of the renal pelvis The contents of the former tumour comprised neuro epithelial cerebral like substance and bone while the latter was simply piliferous Wyss met with a dermoid cyst of the kidney with ossified walls which had replaced nearly the whole kidney, only some remains of its upper and lower poles being recognisable The cyst contained masses of cholesterine

Besides such cases as the foregoing I know of several instances of dermoids situated in the extraperitoneal tissues in the immediate vicinity of the kidney In Ruge's case the left kidney was in close touch with the inner side of a cyst of this kind and in Zweifel's case the dermoid was intimately connected with the top of the left kidney which it had displaced into the pelvis Both of these cysts besides their pultaceous contents were also piliferous and enteroid cysts were associated [illegible] rdenheuer's case the dermoid lay [illegible] in its wall teeth bony fragmen[illegible] A retroperitoneal paranephritic dermoid cyst of the simplest type was intimately blended with the capsule of the kidney in Czerny's case, and Ehler's remarkable conglomerate of four dermoids was situated over the hilum of the left kidney

I am Sir yours faithfully,

Walton by Clevedon Feb 14th 1913 W ROGER WILLIAMS

TOXIC SYMPTOMS ARISING DURING THE USE OF NOVOCAINE

To the Editor of THE LANCET

SIR —In view of the well merited favour which novocaine now enjoys as a local anæsthetic it may be not without interest to record two cases in which alarming symptoms developed during the course of its administration These both occ[illegible] artment of the Roy[illegible] I was connected, [illegible] permission of Mr E Scott Carmichael who was in charge at the time

CASE 1 —The patient a stolid, hearty man 43 years of age, a weaver by trade came in order to have two sebaceous cysts removed from the under surface of the chin immediately below the lower margin of the mandible and slightly to the right of the middle line He declared that, apart from this condition he had never had any trouble in his life and subsequent examination confirmed this by revealing a perfectly normal heart and vessels healthy kidneys and the remaining systems apparently equally efficient No nervousness whatever was shown as he took his place on the table and the assurance was smilingly given that the prick of the needle was hardly felt Two drachms of a 1 per cent solution of

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[1] Transactions of the Southern Surgical and Gynæcological Association 1909 vol xxi

[2] THE LANCET 190[illegible] vol ii p 158[illegible]

[3] Archiv für Klinische Chirurgie Band lxxxvi 1837

novocaine, equivalent to slightly more than one grain of the solid drug, and containing not more than three-quarters of a minim of 1 in 1000 solution of adrenalin hydrochloride, were then slowly introduced. The injection was made in the usual manner, the needle being inserted just below the skin and gradually withdrawn as the fluid was expelled. During this process, which occupied approximately three minutes, the patient remained placid and unmoved. Then, without the slightest warning, the pupils became widely dilated and fixed, consciousness had completely gone, and a cold, clammy sweat burst out upon the face. Both the breathing and the pulse were slow, the former shallow and scarcely audible, the latter thready and irregular. The whole body became markedly rigid. In this state he remained for fully a minute, the bodily rigidity continuing as a prominent feature. Then the pupils were seen to contract slightly and to pass into a state of hippus, the muscles relaxed, and consciousness was recovered with a start that nearly carried the patient off the table. The pulse, although its rate remained as low as 55 per minute, regained its amplitude and force. The temperature was found to be subnormal—97·6° F. The cysts were now removed, efficient anæsthesia having been produced by the injection. During the operation, however, the patient experienced great nausea and a feeling as if he were "going off again," as he himself expressed it. The face remained pale and covered with beads of clammy perspiration. Strychnine hydrochloride, 1/60th of a grain hypodermically, and 4 drachms of brandy by the mouth hastened recovery, and in the course of an hour, with the exception of slight weakness and continued nausea, he was quite himself again.

In connexion with the above symptoms other possible causes suggest themselves, and must as far as possible be excluded before we can attribute the blame to the absorption of the drug. Thus, mere fright, which in a highly strung patient might be accounted a sufficient explanation, seems here to be out of court when one considers the disposition of the patient and the prolongation of the collapse. Pain could hardly be held as responsible, as the patient made the positive statement that he felt no pain or discomfort; and that, immediately before consciousness was lost. Lastly, it would be difficult to believe that the minute quantity of adrenalin present could have caused such far-reaching effects.

CASE 2.—This case, that of a male aged 44, I shall not emphasise. A musician by profession, the patient's nervous disposition made it difficult to judge how far his symptoms were due to his nervousness and how far to the anæsthetising drug. The same quantity of novocaine in the same strength of solution as in Case 1 was injected into the base of the right index finger for the removal of a painful nail. Shortly after the introduction of the fluid he had an attack of syncope with collapse and subsequent vomiting. I am inclined to think, from the delayed onset, the subsequent vomiting, and the long continuance of the symptoms, that the novocaine had at least some share in their production.

Such cases as those recorded above must be comparatively rare. In our own department the drug was widely used every day, and I have observed no others similar to them; nor has any case been recorded within my knowledge in the English literature at any rate, since the use of novocaine as a local anæsthetic originated in Germany about the year 1905. The possibility that some persons may have an idiosyncrasy towards it is thus suggested. It may be of interest in passing to point out that in 1910[1] Major Gabbett recorded a case of death under spinal anæsthesia, induced by novocaine, in which, as in the first case recorded in this paper, rigidity of the body and limbs was a marked feature.

Again, the contingency of the solution being injected directly into a small vein, especially in such a vascular region as the head and neck, must not be overlooked; but the precaution taken of gradually withdrawing the needle as the injection was made rendered it unlikely in our cases. Lastly, the nature of the solution of novocaine falls to be considered. Most writers are of the opinion that aqueous solutions of the drug may be boiled repeatedly and kept for long intervals without any degeneration or hydrolysis taking place. As used in the Royal Infirmary, 2 per cent. solutions are carefully prepared in the infirmary laboratory and sent up in sterile flasks for use in the wards. These are diluted to the requisite strength with normal saline just before use. Although the method of preparation is uniform, the efficiency of the drug as an anæsthetic appears to vary from time to time, and not only so, but in some solutions a yellow tinge becomes perceptible after one or two boilings. This was noted by Lemaire.[2] The writer advises that such solutions should be discarded as being irritating to the tissues. Is it not possible that what is irritating locally might be toxic when absorbed into the general circulation? Of course, the rarity of toxic symptoms in the use of the drug shows that the formation of nocuous products is of by no means common occurrence; yet I think that the possibility of their being present and the conditions under which they are formed are subjects worthy of further investigation. In the solution used in Case 1 there was a distinct yellow tinge, and since our unpleasant experience there we make a point of discarding all preparations that are not perfectly clear.

I am, Sir, yours faithfully,

R. CAMPBELL BEGG, M.A., M.Sc., M.B., Ch.B. Edin.,
M.R.C.S. Eng., L.R.C.P. Lond.,
Late House Surgeon to the Out-patients, the Royal Infirmary, Edinburgh.

Germiston, Transvaal, Jan. 4th, 1913.

ARTIFICIAL RESPIRATION.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Feb. 1st, p. 345, Professor Leonard Hill asks why mouth-to-mouth artificial respiration is not called "Elisha's method." I may state that in many parts of the United States of America, especially New York, it is so called. In the Sloane Maternity Hospital there, one of the finest maternity hospitals in the world, the method is used considerably when the need for it arises. Of course, it is used elsewhere for patients other than the new-born. In a paper in course of preparation I discuss various practical methods of starting the new-born non-breathing child to normal respiration. It might not be out of place here to give the Elisha method as applied to the new-born.

In the Elisha method a towel is placed around the feet to prevent slipping, and the child is held upside down. A little piece of gauze wrapped on the little finger clears the mouth and throat of any mucus or other material. The child is then placed on its back on a table, a piece of gauze put over its mouth, and the legs are bent up so that the knees are pressed into the pit of the stomach to prevent its being blown up. The other hand is placed under the head, neck, and shoulders. The mouth of the person holding the infant is placed over its mouth, and one blows carefully a moment. Usually the chest of the babe can be felt to fill. Then bend the head and shoulders forwards so as to drive out the air. Repeat at the rate of about 15 times to the minute, and after a few times see if the child will start for itself. It is wonderful how a few breaths like this will turn a purple baby pink. Then if it does not start, blow on its stomach, turn it upside down again, and spank the bottom of the feet or buttocks. Flick a little cold water on to the abdomen, warm and cold tubbing, and if it gets blue again repeat the Elisha method. The combination usually starts the baby. I have helped do these methods for two hours and been rewarded by the child starting itself at the end.

I agree with Professor Hill that the credit ought to go to the originator, and in spite of any other names that may be applied to this procedure I think that none will claim priority. I am, Sir, yours faithfully,

Toronto, Canada, Feb. 3rd, 1913. GORDON G. COPELAND.

TREATMENT OF BOILS, CARBUNCLES, &c., BY SULPHURIC ACID.

To the Editor of THE LANCET.

SIR,—About four years ago Dr. J. Reynolds and Dr. Russell J. Reynolds, in a short note, drew attention to the treatment of boils, carbuncles, and other troubles due to staphylococcic invasions by the internal administration of sulphuric acid in 20 minim to 30 minim doses, well diluted, every 4 hours.

Since reading that note I have employed no other remedy in the treatment of boils and carbuncles, excepting protective dressings, and have experienced most gratifying results, without exception the condition has quickly improved in those cases where suppuration had been well established, and it has not failed to abort commencing mischief or secondary crops My thanks are due to the authors for bringing their treatment to my notice

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[1] Brit. Med. Jour., March 19th, 1910.

[2] Repertoire de Pharmacie, September, 1906.

Recently I adopted this treatment in a case of severe acne, the drug effected a rapid improvement and acted better than any remedy that had been employed in this case during a period of 35 years In the case of a morphia habitué, who when he came under treatment had threatening abscesses on both arms, due to the injection of septic solutions of morphia, I employed this remedy with the usual satisfactory results so far as the inflammatory conditions were concerned At the same time there was a vast improvement in the condition of the gums, which were affected with extensive pyorrhœa alveolaris Both the patient (who was *a medical man*) and I were *inclined to ascribe this decrease* of oral sepsis to the sulphuric acid I recall another morphia case, where the arms, legs, chest, and abdomen were covered with scars of a keloid character due to old injection abscesses, in which there occurred intense itching After trying many drugs in vain, as there were a few pustules, I gave sulphuric acid, and the patient received immediate relief In this case I have just heard that the irritation has returned a few weeks after treatment was discontinued

I have but few opportunities here to treat ailments caused by staphylococcic infection Still, my experience, though limited, leads me to believe that this method of treatment would be largely employed if more generally known, and it is *to be hoped that its original* authors *will publish a further* and more extensive account of the results which they have obtained

I am, Sir, yours faithfully,
F S D HOGG

Dalrymple House Rickmansworth Feb 18th 1913

THE ABDOMINO-PERINEAL OPERATION FOR RECTAL CANCER A SUGGESTION FOR REDUCING THE MORTALITY.

To the Editor of THE LANCET

SIR,—It is now generally recognised that the surgeon operating for cancer is not doing his duty to his patient unless he removes the diseased area as widely as is compatible with safety to life The abdomino perineal operation has been evolved to meet this axiom, and from the point of view of permanent results has an excellent record but unfortunately there is attached to it an appalling mortality from something over 20 per cent in selected cases (women under 60 being the best subjects) to probably nearly 40 per cent

The causes of the mortality are chiefly sepsis and shock, embolism also must be mentioned, Shock can be met by the usual treatment, which at present we do not know how to improve, but in the matter of preventing sepsis I think more can be done I performed *this operation some two years ago* in conjunction with another general practitioner on a man aged 60 There was no shock and the patient appeared to do well for three days, but expired on the fifth day from toxæmia generated in the pelvic tissues I then came to the conclusion that this patient would have had a much better chance of surviving if he had had his bowel cleaned out before operation, and determined if it ever fell to my lot to perform this operation again to do a preliminary colotomy and wash out the bowel for a fortnight with antiseptics

I would suggest that a [illegible] should be adopted as a rout [illegible] advantages Firstly, with [illegible] *periods*, at any rate, of intestinal stasis when the bowel is full of fluid, evil smelling fæces teeming with pathogenic microbes and toxins, the latter being absorbed by the bowel and poisoning the whole system A colotomy would allow free drainage and get rid of the poisoning, and the patient would have a fortnight with good appetite, &c, and would undoubtedly at the end of that time be in a better plight for undergoing a severe operation Secondly, the washing out of the bowel would, apart from clearing away all fæcal material and the bulk of the organisms, clean up the surface of the growth, and, as constant reinfection of the growth if ulcerated would be absent, any glands that might be enlarged from sepsis would subside Also inflammatory thickening round the growth would subside, and at the second operation, which in a doubtful case might be exploratory, the freedom from inflammation might make a growth operable which otherwise would have appeared inoperable *Again, at the second operation any organisms that* might have been in the lymphatics or perirectal tissues would have been destroyed or rendered immune in the course of a fortnight, and so only healthy tissues would be cut through, and another source of infection eliminated Thirdly, the operation itself would be much shortened, as the surgeon would be operating on collapsed clean bowel instead of bowel full of filthy fæcal matter Time would be saved, too, in that instead of having to perform a colotomy through a stab wound in the inguinal region, he would only have to close the upper end of the divided pelvic colon by a purse string suture or two Again, knowing that the rectum was clean and empty, no time need be *wasted in elaborately closing the anus before starting* the perineal part of the operation To sum up, the perineal operations, though safe, have very bad results as regards recurrence The abdomino perineal is a scientific operation, and the late results in those cases that survive are excellent, but the immediate mortality is great and is largely due to sepsis Can these deaths due to sepsis be avoided or largely reduced by a preliminary colotomy and antiseptic douches?

I am, Sir, yours faithfully,
R LEONARD LEY, M B, B C Cantab

Great Yarmouth, Feb 14th, 1913

THE SERO-DIAGNOSIS OF PREGNANCY.

To the Editor of THE LANCET

SIR,—For some months past we have been engaged in investigating in these laboratories (Director, Professor R T. Hewlett) the value of the sero diagnosis of pregnancy, evolved by Abderhalden in accordance with his hypothesis of the protective *ferments* *Up to the present we have been* working mainly with the dialysis method, and we are able to confirm Abderhalden's results in so far as we have always obtained positive tests with sera of pregnant cases Our excuse for troubling you with this letter is, that in the course of our experiments we found that these ferments were not necessarily tissue specific because normal uterine tissue gave a positive reaction, and whilst our observations were made early in January we find that Dr Paul Lindig, of Jena has published the results of his observations in the *Munchener Medizinische Wochenschrift* of Feb 11th, 1913, No 6, p 290, which are identical with ours There is, however, this difference in the investigations carried *out* by Dr Lindig and ourselves in that we have tested a much larger number of normal controls At the same time we made some polariscopic observations (Abderhalden's optical method) with placental peptone prepared by ourselves, but it is too early at present for us to come to any definite conclusions as to the clinical value of the optical method, but we hope shortly to publish our complete results

We are Sir, yours faithfully,
L W RAJCHMAN
J G HARE

King's College London University Laboratories
Chandos street, Strand W C Feb 17th 1913

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET

SIR,—The matter of voluntary payments to panel doctors by insured persons requires more attention

As a considerable number of insured persons are desirous of ignoring the medical benefit provisions of the National Insurance Act, and have intimated to their doctor that they wish to be attended by him in the ordinary way, in spite of the fact that he has accepted them as panel patients, I have taken legal opinion on the following question, and have received the reply which is given below

Question—Is it open to a practitioner on the panel to receive payment voluntarily made for treatment (such treatment being within the competence of a general practitioner) rendered to an insured person under his care, such an insured person not being a person who has made his own arrangements in the manner provided by the Regulations?

Answer—As the Regulations stand I think it is open to a practitioner on the panel to receive voluntary payments for treatment within the competence of a general practitioner.

I am, Sir, yours faithfully,
Rochdale, Feb. 18th, 1913. J. CUTHBERTSON WALKER.

To the Editor of THE LANCET.

SIR,—With all the respect due to one who has been in the profession three times as long as I have, I maintain that Dr. George C. Crichton lays himself open to the charge of having allowed the wish to be father of the thought. The actual state of affairs is that the majority of practitioners in London at any rate repudiate the right of the British Medical Association (or rather its provincial majority) to rescind or abrogate the pledge. This pledge was given by each signatory in the terms that all service under the Act is to be refused until the terms and conditions of such service shall be satisfactory to the whole profession. It is therefore undoubtedly as binding now as ever it was upon every man and woman who has at heart the scientific and economic interests of our profession and the real improvement of the public health. The panel system is still officially branded with the stigma of being "derogatory" to those who serve under it, and it is merely glossing the facts and hiding the truth to pretend that it is not also "dangerous to the public health." For these reasons it is evident that no action by the British Medical Association can ever bring about a fusion between the two present (and, I fear, future) classes of doctors, the Independents (or "Die-hards") and the Panellites. I am, Sir, yours faithfully,
Brixton-hill, S.W., Feb. 17th, 1913. DONALD J. MUNRO.

THE ALL-INDIA SANITARY CONFERENCE.

(FROM OUR OWN CORRESPONDENTS.)

(Concluded from p. 488.)

Sewage and Refuse Disposal.

THE afternoon of the fourth day was devoted to sewage and refuse disposal, and much interesting matter was forthcoming, including the use of small incinerators and destructors.

Major F. H. HUTCHINSON, I.M.S., gave the results of the Poona experimental sewage installation.—Mr. C. L. COX described the Colombo drainage scheme and sewage treatment.—Major S. A. HARRISS, I.M.S., in a paper on Night Soil Disposal and associated Fly Breeding, raised the following points: 1. What is the best method of excreta disposal in towns to prevent fly-breeding in night soil (*a*) in a colloid condition, and (*b*) in a solid condition, from private latrines, having regard to probable expense and income to the municipality, and the possibility or impossibility of irrigation of trenched land? 2. Howard has shown that flies can come to the surface through 48 inches of sand. In these circumstances how can night soil best be disposed of to prevent fly-breeding at fairs, having regard to (*a*) expense, and (*b*) fluctuating population, which may reach 2,000,000 a day?—Dr. W. R. MACDONALD, health officer of Madras, gave his results with small incinerators in Madras, and members of the conference had an opportunity to inspect the results, which were excellent. Dr. Macdonald warned against the use of night soil. An interesting discussion took place.—Dr. A. G. NEWELL said he had seen nearly all the different types of incinerators, and considered they had effected a financial saving, being useful in filling up low-lying land. Those in Madras were for the burning only of rubbish free of night soil and gave good results.—In reply to Major WILLIAMS, who said the Burmese objected to the smell of burning, Dr. MACDONALD said he had had only 12 complaints out of a population of over 500,000.—Dr. T. M. NAIR said that there was a distinct prejudice against the burning of night soil. The success of incinerators depended on the separation of the night soil from rubbish.—In reply to Dr. MASTER, Dr. MACDONALD said that the maximum time of storage prior to incineration was 25 hours. There arose no question of congestion of rubbish in the dry season.—Major WILLIAMS said a temperature of 2000° F. was necessary to prevent nuisance, for the smell of slow combustion might be carried half a mile or more.—Colonel WILKINSON, I.M.S., said that combustion should be exceedingly slow to minimise nuisance from smell, and instanced the boiling of milk over a slow fire as contrasted with the smell from burning of milk. He suggested gradation in incinerators with night soil on top. It was said that it was morally wrong to deprive the soil of refuse and night soil, but the municipality saved by incinerators the cost of cartage. In the absence of sewers he regarded the incinerator as the best method of dealing with night soil.—Captain W. C. ROSS thought incineration of rubbish very easy and that of night soil very difficult. They could not be discussed together.

Major HARRISS read a paper on the Sullage Farm at Agra to show that sullage farms when properly run are paying concerns, and form a useful adjunct to schemes for the improvement of the milk-supply.

Infiltration Gallery at Conjeevaram.

On the fifth day 25 delegates went to Conjeevaram to inspect the infiltration gallery. Conjeevaram is a town 45 miles south-west of Madras, in the valley of the river Vegavati. At the site of this town this river is 1000 feet wide, although its source is only some nine miles distant, and it possesses a deep sandy bed. Flood water is rarely seen in the river, and the quantity is small. The river water has the reputation of flowing underground through the sandy bed, and thousands of acres of paddy are cultivated by spring or surface channels excavated therein. The works consist of a gallery in the river bed and a pumping station. The gallery is 550 feet long, and consists of four rows of open-jointed 9-inch stoneware pipes, surrounded by broken stone filling to a depth of 7 feet, of which 6 inches are below the barrel of the pipes. The bottom of the gallery is fixed at a depth of 20 feet below the river bed at the left bank of the pumping station. The broken stone is of 1½-inch size. The four rows of pipes terminate in a well on the river bank. From this well the water is conducted through a cast-iron pipe to the suction well, the end of the pipe being provided with a reservoir sluice, so that ingress of water into the suction well can be cut off when this well requires examination. The suction well is 10 feet in diameter.

Milk-supply.

On the sixth day the problems connected with the milk-supply were discussed in four papers. The first was that on the Utilisation of a Continuous Temperature of 50° C. for the Preservation of the Potability of Milk, by Military Assistant Surgeon MACKEY, who stated that the temperature of 50° C. was on the border line between an incubating temperature (30-40° C.) and a sterilising temperature. Organisms did not multiply at this temperature and in time were actually killed. The method was simple, since it could be carried out by a small kerosene oil lamp, and such a milk required only slight cooling to be safe for infants.

Rai KAILAS CHANDRA BOSE Bahadur, C.I.E., read a paper on the Milk-supply of Calcutta.

Dr. NEWELL, health officer of Lahore, read a paper on Some Practical Points in the Indian Milk Problem, in which he showed from his experience, supported by veterinary authorities, that generally speaking tuberculosis was uncommon in Indian cows. He insisted on the danger of cow-dung as a factor in the production of the disease, and recommended, among other things, training and certification of dairy workers and veterinary students, municipal free provision for dairies of trained dairymen, trained veterinary inspectors, the reduction of octroi charges and the award of prizes for clean milk, stringent licensing conditions in town dairies, provision of laboratories for milk analysis for large municipalities, and a provincial one for smaller ones, and the appointment of a milk commission.

A fourth paper, on the Milk-supply of Towns, by Major HARRISS, was sent in whilst the Congress was sitting.

Other Papers.

Among the other subjects dealt with were:—

Vital Statistics.—Papers were read on the Vital Statistics of Bengal, by Dr. C. A. BENTLEY, and by Babu BEPIN BEHARI BRAMACHARI on Mortality in the Cossipore-Chitpur Municipality. Education of the Public in Hygiene was discussed in a short paper by Major T. G. N. STOKES, I.M.S., and was the occasion of a detailed reply by Major W. GLEN LISTON, I.M.S., while Infantile Mortality, its Cause and Prevention, was dealt with by Rai KAILAS CHANDRA BOSE Bahadur, C.I.E. These two papers created some interest.

Inspection of Food and Drugs.—In an able paper Dr.

NAIR explained how little was or could be done in the cities of India to prevent adulteration of food and drugs — Dr **NEWELL** urged a general Act giving adequate powers to local governments to deal with local requirements, as well as a separate Pharmacy Act

Medical Inspection of School Children was the subject of a paper by Dr **AMRITARAJ**, and in the discussion which followed it was shown that in no province had this been systematically taken up

Rural Sanitation —This was discussed in two papers, those of the Hon Khan Bahadur **SAYAD MAHDI SHAH** and Mr **MOTA LAL GOSH**

Rural Water supplies —The Government of India having asked for information as to the arrangement in each province for the provision of protected wells in rural areas, the following are abstracts of some of the replies —

Madras —The chief sources are rivers, tanks, and wells In dry weather the people dig pot wells in the river bed These are factors in the spread of cholera Tanks are reserved for drinking and others for bathing, but though guarded by watchmen strangers do not discriminate between them In villages draw wells are in use, as far as possible step wells are being converted into draw wells

Bombay —In Gujarat and the Deccan wells and rivers supply the drinking water Many of the former have steps and disseminate cholera It is common to sink wells in the beds of nullahs which dry up as soon as the rains stop They are mere pits in loose soil In the Upper Sind the wells are often near stables, cowsheds, and manure heaps, Near the delta of the Indus it is useless to sink wells, as they become brackish There the people have to resort to the "dhands' or pools left by annual inundation These are often disgustingly dirty as the hot weather advances Buffaloes waddle in them and pariah dogs bathe in them, and side by side people take the liquid mud to drink

Bengal —Wells are suitable for water supply in the districts of Bankura, Burdwan, Berbhun, and Midnapur, the soil in parts of these districts being laterite In other parts tanks, khals, or rivers are the sources The water is brackish A Government committee is considering the best methods of improving the water supply

United Provinces —The somewhat lengthy reply shows that grants have been given for improving existing wells and sinking tube wells on certain conditions

Punjab —The provision of protected wells has been in the main left to private charity and large sums have been expended The provision of good wells has been one of the conditions and rewards to villages in the canal colonies and elsewhere, but these rewards have been discontinued Hand pumps are in use in some districts

Burma —In the great part of the Delta of the Irrawady river the water from shallow wells is brackish and unsuitable Subsoil water is near the surface and prevents well sinking, and deep wells have failed to give potable water

On the Delta and coasts rain water tanks are common A sufficient water supply can be got by storage in tanks where the rainfall is over 80 inches a year Shallow pit wells are also used Farther inwards wells are relied on The method of drawing water gives easy means of pollution In Burma there is no efficient means for dealing with rural sanitation The Burmese are extremely conservative and lazy, and no form of pump yet tried has lasted more than a few months

The Engineering Section

In the Engineering Section many interesting subjects were discussed Fly proof Latrines by Major H A **FORBES KNAPTON**, I M S, Models of Sanitary Work in Madras, by Mr J M **LACEY**, Dust Prevention, by Mr E P **RICHARDS**, and Sanitary Problems of Madras, by Mr W **HUTTON**, provided much material for discussion, while the Relationship between English and Indian Sanitary Engineering Practice, by Mr G B **WILLIAMS**, and a Note on Sanitation on India, by Mr C N **MANDY**, were well worth hearing

The Conference came to an end on Nov 20th, probably to meet again next year at Lucknow or Calcutta All were loud in their praise of the way the Conference had been organised and the hospitality of Madras

THE MALARIA CONFERENCE

The Malaria Conference began on Nov 18th and lasted three days

The President's Address

Sir **PARDEY LUKIS**, I M S, Director General of the Indian Medical Service, welcomed the delegates in an able address, pointing out the work that had already been done and how much still remained With regard to the journal *Paludism*, he said it had not received adequate support, and it was contemplated to substitute for it a journal of Indian research He justified the existence and explained the work of the mosquito surveys, discussed the various methods of mosquito reduction, urged a pure water supply, discussed the quinine prophylaxis at some length, and concluded that for local reasons in India quinine prophylaxis must be largely restricted to the destruction of the parasites in the blood of those who are suffering from malaria in either its acute or its chronic form, especially in the fever season He discussed the etiology of blackwater fever and the group of allied diseases, and reviewed our present knowledge of the other febrile diseases to be dealt with, and urged his hearers to be "up and doing" and not to wait until some French or German parasitologist came along and discovered the secrets of the many continued fevers which daily confronted the Indian medical profession

The Epidemiology of Malaria in Madras was ably dealt with by Captain J H **HORNE**, I M S, in Bengal by Dr **BENTLEY**, in the Central Provinces by Major **STOKES**, in Imperial Delhi by Captain E C **HODGSON**, I M S, and in the Jeypore Agency Estate by Major E L **PERRY**, I M S

The Action of Quinine and the Treatment of Blackwater Fever gave Major A C **MACGILCHRIST**, I M S, an opportunity for discussing the much debated point, and his paper created some difference of opinion

The Diagnosis of Latent Malaria was dealt with by Captain H W **ACTON**, I M S, while Major P N **O GORMAN LALOR**, I M S, described the studies of malaria in Italy during 1910 Anti malaria measures in Bombay and quinisation of school children in the United Provinces were described respectively by Dr J A **TURNER** and Major J D **GRAHAM**, I M S

Stegomyia operations were well described by Major **LISTON**, Bombay, Dr **MHASKAR**, Karachi, Major **MACGILCHRIST**, Calcutta Captain **HORNE** Madras, and Major **O GORMAN LALOR**, Rangoon

Kala-azar formed the subject of interesting papers by Lieutenant Colonel C **DONOVAN**, I M S, and Captain T C **MCCOMBIE YOUNG**, I M S, while Captain F P **MACKIE**, I M S, read an interesting paper on Protozoal Diseases, particularly those due to trypanosomes

The interest in the Malaria Conference was well sustained throughout three days, the papers provided ample material for discussion and were of great interest

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Annual Meeting of the Liverpool Royal Infirmary Increase in the Honorary Staff

THE annual meeting of the trustees was held in the board room of the hospital on Feb 5th, under the presidency of Mr Ralph Brocklebank The honorary treasurer, in reviewing the financial position, said that the year had been full of critical and anxious moments but, despite all fears, the lay and medical staffs had worked loyally together During the year there had been a large number of changes among those attached to the hospital and also in the means and work of administration Three members of the committee resigned and two died By the death of Dr A T H Waters in June last, who was honorary physician from 1870 to 1886, the honorary staff lost their senior consulting physician Mr E J M Phillips, dental surgeon since 1881, resigned his post, and the vacancy was filled by the election of Mr S Hallam Dr John M Hunt, the honorary laryngologist, retired after 20 years of diligent service On June 30th, 1911, Mr Brocklebank resigned the position of chairman, and early in 1912 Mr H Wade Deacon was elected to the vacant position The new out patient department, which had been in constant use for just over a year, had fully proved its usefulness, and had come up to expectations in its adaptability for dealing with its work to the advantage both of the patients and staff The theatre there had been most useful in dealing with 1103 minor operations, to the relief of the other theatres in the main building. About the middle of the year the X ray department was moved to its new quarters, which had been fitted up with the latest equipment, and the new conditions enabled the staff to deal with that important work most expeditiously. Owing to the extra nursing staff required for the out-patient department and casualty beds, together with the fact that the amount contributed from the hospital funds of the nursing institution for many years had not been sufficient for the cost of nurses required, it had been decided to increase the amount this year. The attention of the committee having been called to the large number of in-patients who came from a distance, it was decided to make a charge towards the cost of maintenance. That result had proved satisfactory. The committee was glad to be able to report that ward accommodation on a site belonging to the infirmary would shortly be provided for the treatment of tropical diseases, all necessary arrangements having been settled between the committee and the committee of the Liverpool School of Tropical Medicine. 3974 patients had been admitted to the wards and 369 cases were received in the casualty wards. The expenditure, owing to the high price of coal, the increased demands for more expensive drugs and dressings used in the work of the new out-patient department, together with the extra contribution to the nursing home, showed an increase of about £1000. Every year, owing to altered conditions, the expenditure continued to grow, with the result that the hospital debt increased at the rate of about £2000 a year. On Dec. 31st £7500 were due to the bank, and it was proposed to transfer £1500, being one-tenth of the maintenance fund, which would leave the debt at £6000. That was a state of affairs the public ought not to allow to continue. A vote of thanks to Mr. Brocklebank for his services as president and for his donation of 100 guineas was carried. The Earl of Derby was unanimously elected president for the ensuing year. The committee has decided to appoint an additional honorary assistant physician. This step was necessitated by the additional work in the new out-patient department.

The Lancashire County Council and Sanatoriums.

At the quarterly meeting of the county council held at Preston on Feb. 6th Mr. H. Wade Deacon (the chairman of the finance committee) reiterated a strong word of warning against any premature capital outlay for the provision of permanent buildings as sanatoriums. Looking at the decrease of tuberculosis, he advised that temporary provision should alone be made. The small-pox hospitals which were erected at great cost stood empty. The following medical men were appointed members of the Lancashire Insurance Committee: Mr. John Chadwick, Mr. Robert Sephton, Mr. Charles J. Trimble, C.M.G., Mr. John E. Dunn, and Dr. Manley M. Fitzpatrick.

Feb. 11th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

AT the annual meeting of the Court of Governors on Feb. 12th the chief item of interest to the medical profession was the election of Mr. H. Gilbert Barling to the Vice-Chancellorship. The death of the late Vice-Chancellor, Alderman Beale, was a great loss to the University, for he was a man with unusual powers, a wide experience of affairs, and a judicial mind, who had steered the University safely through its early difficulties. He was therefore a difficult man to follow. Mr. Barling has high qualifications for the post. He took an active part in the transformation of the old Mason College and the foundation of the University. As a teacher in several capacities, an active hospital surgeon, and a member of the University Council, he has served a long apprenticeship to the post, and will bring to it a trained scientific mind and academic knowledge as well as a knowledge of men and affairs. The report of the council mainly dealt with finance, but there are several interesting statements. The colliery owners of the South Midland district have presented £500 annually to be applied to the study and prevention of mine disasters. The money will be spent partly on a stipend for a lecturer and partly on travelling expenses to nine rescue stations and on apparatus. An important arrangement has been made with the Board of Agriculture for carrying on research bearing upon agricultural zoology, from which much is expected.

The Insurance Act.

There are in Birmingham about a quarter of a million insured persons, and by now the great majority have chosen their doctors. As in other places, they are very unevenly divided among the various practitioners. One practitioner has registered nearly 4000 and two others have more than 3000. Careful observations of the proportion the number of actual patients treated bears to the number of members enrolled have been made in certain quarters, and the experience of the first month has yielded a percentage of from 17 to 20. A local Pharmacopœia has been prepared containing 120 items, and the prescribing and dispensing appear to be working smoothly. At a mass meeting of chemists presided over by Mr. J. Radford, President of the Midland Pharmaceutical Association, an address was given by Mr. Nethercoat, who said that for the first time the Act gave official recognition to pharmacists, and that was going a long way towards the ideal for which they had been working during the 70 years' existence of the society. 93 per cent. of all pharmacists who were entitled to go on the panels had agreed to serve, and the remainder supported the principle on which the tariff was fixed. They had got State recognition of the registered chemist as the dispenser of medical prescriptions. He thought the change would improve the relations between the medical profession and the pharmacist.

Death of Sir Thomas Chavasse.

The death of Sir Thomas Chavasse, the senior surgeon to the Birmingham General Hospital, removes a very familiar figure from medical circles in the city. A man of high principles and distinguished attainments, his unexpected death will be deplored by a very large circle.

Feb. 18th.

WALES.

(FROM OUR OWN CORRESPONDENT.)

Watching the Dead.

"GWYLNÔS"—literally watch-night—a still surviving custom in some parts of Wales, has recently come in for a considerable amount of condemnation at the hands of those who are responsible for the health of the country. It has been said, quite justly, that for several persons to congregate in a small, probably very ill-ventilated, apartment in company with a dead body can hardly be wholesome, and speedy ill-results may follow when the body is that of one who has died of an infectious complaint. Efforts are accordingly being made to put an end to the custom, concerning the origin of which there is some difference of opinion. One view is that the object of the watching was to prevent the body being taken away by body-snatchers for the purpose of dissection in the medical schools. It appears probable, however, that the custom is much more ancient than the period of body-snatching, and is a survival of the practice once prevalent in Roman Catholic countries of carefully watching the bodies of the dead prior to burial. Whatever be its origin, in the interests of public health the custom should now be no longer permitted.

Cardiff Medical School.

The Cardiff Medical School since its establishment has been housed in the old infirmary buildings in Newport-road, and almost within a stone's throw of the present King Edward VII. Hospital. From time to time extensions have been made by erecting iron and wooden buildings, but it has long been recognised that the accommodation is altogether inadequate for the needs of the school. When designing the new University College buildings in Cathays Park the medical school was provided for, but as the college buildings are being put up piecemeal it was realised that it would be some time before the medical school could give up occupation of the present buildings. In order to put an end to the existing unsatisfactory conditions, and also with a view of providing special facilities for research work, Mr. W. J. Thomas, a colliery proprietor, in the Rhondda valleys, offered to the college authorities 10,000 guineas for the purpose of erecting suitable buildings on the Newport-road site, and he has recently increased this sum to £12,750. The objections to retaining the present site for a medical school are partly sentimental and partly practical. The college authorities are very anxious that the whole of the college buildings should be grouped together in Cathays Park, and, as Principal E. H. Griffiths has pointed out, a medical school in Newport-road would conflict with the ideal of the college as an entity which is so important a consideration in university life. From the practical point of view the upkeep of a separate establishment would involve additional expenditure of possibly £1000 annually. On the other hand, it is important that the medical school should not be too far from the hospital, and in this respect Cathays Park is at a considerable disadvantage compared with Newport-road. Sir Isambard Owen has advised very strongly that the offer of Mr. Thomas should be accepted and the Newport-road site utilised, and at the last meeting of the council of the college it was decided to follow his advice and to proceed with the erection of the new buildings.

Sanatorium Benefit in Wales.

The National Insurance Act provides that the Welsh Insurance Commissioners, and not the Local Government Board as is the case in England, shall control the distribution of all moneys available under the Act for the purpose of providing or making grants in aid of sanatoriums and other institutions. The Commissioners have sanctioned the arrangement which has been arrived at between the Welsh National Memorial and the county councils of Wales and Monmouthshire whereby the administration of the sanatorium benefits shall be in the hands of the memorial, the county councils agreeing to make contributions, if required, to the amount of a sum equal to a rate of ½*d.* in the £. With a view to arriving at some general agreement a conference was recently held at Llandrindod Wells between the Welsh Commissioners and representatives of the county councils, including the county medical officers of health, when Dr. H. Meredith Richards, the vice-chairman of the Commissioners, pointed out that many preventive measures, such as house-to-house inspection, supervision of food supplies, and general sanitary supervision, were incumbent on all local sanitary authorities irrespective of the presence or absence of tuberculosis, though these obligations became more insistent in the actual presence of the disease. One of the most important matters considered at the conference was the relation of the tuberculosis officers to the county medical officer of health, concerning which it is probable that some difficulties may arise, for with only one or two exceptions the county medical officers of health in the Principality were not at all anxious to have the administration of sanatorium benefits placed in the hands of the National Memorial, foreseeing that certain administrative difficulties were very likely to arise. The practical outcome of the conference was a decision to carry on the tuberculosis campaign on broad national lines and not in piecemeal fashion, county by county or borough by borough. Having this decision in mind, the Cardiff corporation has decided to work in coöperation with the National Memorial, although the health committee had previously advised that a separate organisation would best meet the needs of the town.

Medical Treatment of the Uninsured in Cardiff.

The medical practitioners of Cardiff have expressed their willingness to attend the uninsured members of friendly societies, except juveniles, at 8*s.* 6*d.* per member per annum, including the supply of medicines and the giving of certificates. The societies, however, have not agreed to these terms and are desirous of paying 6*s.* 6*d.* per annum for each uninsured member, including those over 65 years of age and permanent sick members, who are in receipt of an income not exceeding 45*s.* per week. They agreed to pay 8*s.* 6*d.* per annum for all new entrants irrespective of age and income, and for those receiving an income over 45*s.* per week, and suggested 4*s.* 4*d.* per annum for the juvenile members of the societies.

Feb. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

National Health Insurance in Edinburgh.

AT a meeting of the Local Insurance Committee held on Feb. 11th the applications of insured persons wishing to make their own arrangements under the Act were considered. It is understood that these were very numerous in the Edinburgh area. It was agreed to withhold permission of this sort from all except those falling under the following heads: (1) Insured persons at present ill and under the care of a non-panel practitioner; (2) insured persons in the employment of, or resident in the houses of, non-panel practitioners; and (3) insured persons undergoing homœopathic treatment at the hands of a non-panel practitioner of this class. Permission was also given to various medical institutions to make their own arrangements of this sort. This decision practically falls into line with that settled for the Lothians and surrounding counties by their respective committees.

Presentation Portrait of Sir William Turner.

On Feb. 14th Mr. A. J. Balfour, as Chancellor, accepted, on behalf of the University of Edinburgh, a portrait of Sir William Turner, subscribed for by students and friends in all parts of the world in appreciation of his sixty years' service successively as demonstrator, professor, and principal of the university. Sir Robert Finlay, M.P., made the presentation on behalf of the subscribers, and Mr. Balfour, in accepting custody, paid a high tribute to Sir William Turner, and touched upon the great academic change which had taken place contingent upon the successful effort to make the modern university keep pace with modern needs. The portrait, which is the work of Sir James Guthrie, P.R.S.A., is of three-quarter length, and is an admirable likeness in every way.

Edinburgh Royal Medical Society.

This society held its annual dinner on the evening of Feb. 11th, under the chairmanship of Dr. R. Murray Lyon, senior president, in the society's hall. Mr. W. Arbuthnot Lane, who earlier in the day had delivered a lecture under the auspices of the surgery department on "Intestinal Stasis," was the guest of the evening. There was a full attendance of Fellows and Members, and the speeches fell no whit short of the high level usually attained at this function.

Glasgow Slums and the Medical Faculty.

The treatment of consumption and the housing question in Glasgow formed the basis of a number of resolutions passed recently by the Royal Faculty of Physicians and Surgeons of Glasgow, and submitted by a deputation from that body before the corporation at a sederunt last week. The deputation was headed by the President, Dr. James A. Adams, who said they were present in no carping spirit, but rather to try to support the council in the efforts they were making to deal with very important health subjects. If slum properties were swept away their value would be returned a hundredfold to the community in better health. Professor J. Glaister submitted the first two of four resolutions. These were:—

1. That the Faculty have learned with satisfaction of the action already taken by the corporation of Glasgow in closing houses and tenements in the slums of Glasgow which are the breeding places of [illegible]

Speaking to the second resolution Professor Glaister said there were bound to be advanced cases of consumption living under conditions which were entirely inimical, and there was a section of the Public Health Act which stated that such persons without proper lodgings must be provided for by the municipality. They knew from medical experience that the disease was spreading through imperfect housing conditions, and his opinion was that in very advanced and incurable cases patients might have accommodation in which they could die in comfort. Dr. Ebenezer Duncan submitted the latter two of the four resolutions. These were:—

3. That in view of the rapidly accumulating experience regarding the disheartening results which follow the return of sanatorium

subject discussed. On this question opinion was sharply divided. Some speakers urged as essential to the making of good professors in medical science the possession of extensive theoretical knowledge. This view was ably championed by Professor Weiss and Dr. Lucas-Championnière. Other speakers, on the contrary, among whom was Professor Widal, held that in the professors of the future practical teaching and personal research should have pre-eminence over theoretical knowledge, and this opinion was largely supported. During the session the new statute concerning the matter was voted on. The principal reform effected is that whereas at present the test of admissibility to the "aggrégation" being essentially theoretical, the unfortunate successful candidates who fail to secure a post are compelled to continue to devote themselves to these theoretical studies, in future the admissibility will remain valid for nine years, so that a candidate who has once been declared eligible will be released from further theoretical tests, and will thus be able to continue his personal researches. The plan voted by the Superior Commission aims principally to favour specialisation among the new *agrégés*, in order that all branches of medical teaching shall henceforth be taught in the faculties and schools of medicine, which has not hitherto been the case. Finally, it was voted to obtain public powers for higher grants in favour of laboratories.

Feb. 17th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Public Health Statistics.

AT a recent meeting of the officers of public health in Vienna a preliminary report dealing with the health statistics for 1912 was read by Dr. Böhm, the President of the Board of Health The figures relating to the mortality show the remarkable and unexpected fact that during that year Vienna had the lowest death-rate amongst all the European capitals, the computed proportion being 14·06 per 1000. There died altogether 32,131 persons in 1912 as compared with 33,684 in 1911 (14·06 as compared with 15·68 per 1000), whilst ten years ago the corresponding ratio was 17 89 per 1000. In this reduction of the death-rate the various fatal diseases participate in an unequal degree, all diseases incidental to infancy and childhood having become less frequent, whilst those incidental to middle life, and especially to old age, have increased markedly. This is illustrated by the fact that ten years ago there died 8880 children under one year of age and 7281 persons older than 60 years, whereas in 1912 there died 5922 children under one year of age and 9568 persons over 60 years Of the latter category 1434 were over 80 years, as compared with 1180 in the year 1903. This shows a direct reversal of the conditions. As regards the causes of death, the following figures are interesting. Tuberculosis last year claimed 6298 victims, as compared with 7748 during the similar period ten years ago. For the same two periods other diseases of the respiratory tract caused 4174 deaths, as compared with 5290, and diseases of the alimentary tract caused 2911 cases, as compared with 3865; an increase was noted, however, in fatal diseases of the circulatory system—namely, 4835 as compared with 3302, and in deaths from malignant affections 2753, as compared with 2157. The facts may be summarised in the remark that accidental preventable diseases have gone down in numbers, whilst diseases due to exhaustion of vital force (arterio-sclerosis, degeneration of the myocardium, and cancer) have increased. A consideration of the figures leads to the welcome conclusion that the average duration of life of the deceased persons was much higher than previously, but it also shows that the decrease of births is as well marked in Vienna as in all other civilised countries of Europe In Vienna only 40 503 living children were born last year, against 45,830 in 1903 and 50,327 in 1893 Thus at least 100,000 living children were born less in the last decade than in the previous one. A continuation of this decline must inevitably result in the number of the population becoming stationary or even diminishing. The hygienic measures which have improved the bulk of the population have considerably narrowed the field of activity of the general practitioner, but on the other hand this loss of income is more than counterbalanced by the new openings for medical work created in connexion with the prevention of disease both in the homes of the people and in industrial establishments, the care of infants, and the protection of children.

Professor Chiari's Birthday.

The well-known rhino-laryngologist, Professor Otto Chiari, recently celebrated the anniversary of his sixtieth birthday, and on this occasion he was the recipient of many compliments and congratulations. His pupils published a Festschrift, containing a number of interesting articles by the most prominent of his previous assistants. He was also entertained at a banquet which was attended by representatives of many foreign nationalities, including English and American societies, and the Vienna Laryngological Society held a special meeting for the purpose of doing honour to its president.

Students' Protest against Recent Modifications in the Medical Curriculum.

Some time ago a new order of studies was established at the University of Vienna, its effect as regards the medical classes being that, after having worked for three semesters (or half-year terms) at the University, the student has to pass four preliminary *viva voce* examinations on biology and a practical examination on anatomy within 12 weeks, whereas previously to the new order coming into force these could be passed in the course of the fourth and fifth semester. Students who do not pass them within the 12 weeks will not be allowed to proceed to clinical study in the wards. These regulations are open to the objection that they might possibly deprive a student of one semester and cause him to lose any scholarships which he might possess. The medical students have therefore taken action of the nature of a protest against them, sending petitions to the dean of the Medical Faculty and to the rector, asking for either a lenient application of the new regulations or the restoration of those which they have superseded.

Feb. 17th.

REMEDIABLE DEFECTS IN CHILDREN OF SCHOOL AGE.—The mid-session address before the Nottingham Medico-Chirurgical Society was delivered on Feb. 5th by Dr. Mary Thorne, who took the Remedial Defects in Children of School Age as her subject. She said that medical inspection had been carried on in schools now for ten years; this had taught us that healthy bodies and healthy minds can only come from healthy parents and healthy surroundings. More attention should be paid to the daily functions of the body, and in order to secure this there should be sufficient and decent lavatory accommodation in every school, and children should be allowed to leave the class if necessary. If these functions are neglected constipation inevitably arises, followed by anæmia, indigestion, and dysmenorrhœa. Fortunately, there is a steady improvement in the lavatory accommodation. All girls should have plenty of active movement in the open air, but not in competitive games; the latter are a mistake for girls of 13 to 16 years. Curiously enough, town children have better playgrounds than village children. The lecturer then briefly dealt with posture curves, flat feet, desk accommodation, and the position of the windows in the classroom. The light should always come over the left shoulder. The teeth were too often neglected, and all second dentition teeth should be stopped on the first sign of decay. The children should clean their teeth at least every night. The importance of clean heads was being instilled into the parents, because they found the children were refused by the factory surgeons if their heads were verminous. A very large number of blind and deaf children owed their afflictions directly to the sins of their parents. Heredity was also the largest factor in the causation of mental deficiency. Thus it became the duty of doctors to impress upon parents, teachers, clergy, and others, the great importance from a medical point of view of encouraging a moral life. Finally, the lecturer deplored the present system of class teaching as opposed to individual teaching; 5 per cent. of the children leave school without being able to read and write sufficiently well to be of any practical use. There should be a simpler code of instruction; little should be taught, but that little should be well taught.

Obituary.

MALCOLM MACDONALD McHARDY, F.R.C.S. EDIN., M.R.C.S. ENG.,

LATE PROFESSOR OF OPHTHALMOLOGY AT KING'S COLLEGE, LONDON, SENIOR OPHTHALMIC SURGEON TO KING'S COLLEGE HOSPITAL, AND CONSULTING SURGEON TO THE ROYAL EYE HOSPITAL.

Malcolm Macdonald McHardy, for many years professor of ophthalmology in, and surgeon to, King's College Hospital, London, was the sixth son of Admiral J. B. B. McHardy by Horatia, daughter of Admiral Pascoe, and grandson of Nelson's famous flag-lieutenant. He was born at Springfield, near Chelmsford, Essex, on March 15th, 1852, and received his early education at the Royal Naval School, which was formerly at New Cross, and afterwards removed to Eltham in Kent. He early showed that he inherited his father's magnificent energy and physique and passionate love of the sea, and he often used to say that but for his mother he would have gone into the Navy, whilst his father wished him to be an engineer. At the age of 17 he was entered at St. George's Hospital as a medical student, and from that time forward entirely supported himself by working as an assistant to private doctors by night and studying as much as he could by day, he being so self-reliant that he entirely refused help from his father, who had others more needy of aid and far less capable of fighting their way in the world than he. He qualified as M.R.C.S. Eng. in 1873 and F.R.C.S. Edin. in 1877, and was assistant house surgeon at Leicester Infirmary, ophthalmic assistant and ophthalmic registrar to St. George's Hospital, London, surgical registrar to Charing Cross Hospital, house surgeon to the Belgrave Hospital for Children. He went for one or two voyages in the old sailing ship *Kong Sverre*, and in 1878 became honorary surgeon to the Royal Eye Hospital, Southwark, which institution he was the chief means of rebuilding and bringing up to its present high state of efficiency, and in 1880 he was elected professor of ophthalmic surgery to King's College He edited the fourth edition of "Wells on Diseases of the Eye," with an original ophthalmoscopic atlas; and contributed several practical papers on general surgical subjects to St. George's Hospital Reports before he exclusively devoted his attention to ophthalmology.

Amon
"On
Tuber

Cataract," and "On the Operative Treatment of Immature Senile Cataract and its Artificial Ripening by Trituration." But his chief accomplishment was the invention in 1882 of the self-registering perimeter, an account of which was published in the *Ophthalmic Review* for that year. This was a genuine boon to the profession, and was met with universal approval all the world over. The invention of this instrument brought him not only fame, but many friends, especially from Germany and America. It is a remarkable testimony to the thoroughness of McHardy's perimeter that in an age when mechanical science has been so progressive, yet for the last 30 years no improvement has been made in it, nor has it been superseded. But all who ever saw McHardy operate or demonstrate cases were always struck with his essentially practical nature and the mechanical bent of his mind. He was an extremely dexterous operator upon the eyeball. His incisions were precise, beautifully even and neat, and so gently made that little, if any, reaction followed, except in the most diseased eyeballs. He had hands as steady as it is possible to imagine, and his operations in the most difficult cases of glaucoma, when the anterior chamber was practically abolished, were most beautiful to watch. He was always an advocate of operation in primary simple glaucoma, and generally endeavoured to obtain a cystoid cicatrix at one angle of the wound by drawing up a strand of iris tissue free from pigment, beneath the conjunctival flap. This he was doing in the early nineties with considerable success.

McHardy was a man of striking physique, being a first-class heavy-weight boxer and a good all-round athlete; but his commanding and domineering personalities brought him as many enemies as his good qualities brought him friends. All admired his honesty and ability, but his forcible nature and unconventional language made many dislike him. With hospital work he was particularly in his element, and his devotion to duty may be testified to by the fact that he would be seeing patients from 3 in the afternoon till 8 and 9 at night, and his notes were always very precise and accurate. His out-patients loved him and would wait hours to see him; while he, being a most versatile man, knew something of most of their trades and occupations, which, coupled with his breezy, genial nature, and thorough examination of their case, endeared him to them all. McHardy died at Dumfries, N.B., on Feb. 8th, aged 60.

The funeral took place at Dumfries. The staff of King's College Hospital was represented by Mr. L. V. Cargill, the senior ophthalmic surgeon; whilst the council of

MALCOLM MACDONALD McHARDY, F.R.C.S. EDIN., M.R.C.S. ENG.
(From a photograph by Frederick MacFadyen, Cliftonville, Margate.)

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of the Comitia of the Royal College of Physicians of London held on Jan. 30th, and of the Council of the Royal College of Surgeons of England held on Feb. 13th, diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon 98 candidates (including two ladies—Miss Merlin Kingsley, Calcutta and Manchester Universities, and Miss Minerva Ellen Reid, M.B. Toronto, Toronto University), who have passed the Final Examination in Medicine, Surgery, and Midwifery of the Conjoint Examining Board, and have complied with the necessary by-laws. The following are the names and schools of the successful candidates:—

Kenneth Blackie Aikman, B.A. Cantab., Cambridge University and University College Hospital; Charles Harry Powell Allen, Madras University and University College Hospital; George Stanley Applegate, Bristol University; Christian Victor Aserappa, D.P.H. Oxon., D.T.M. & H. Cantab., L.M.S. Ceylon, Ceylon Medical College and London Hospital; Stephen Grange Askey, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Mark Avent, B.A. [illegible] University College Hospital; [illegible] John Henry Bennett, King's [illegible] Paul Theodore Gustave Bergouignan, M D. Paris, Paris University; Alured Charles Lowther O'Shee Bilderbeck, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Walter Folliot Blandford, B.A. Cantab., Cambridge University and St. George's Hospital; Maurice Frederick Bliss, London Hospital; Ellis Campbell Bowden, London Hospital; Edward John Yelverton Brash, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Robert Traill Brotchie, London Hospital; Herbert Horan Brown, B.A. Cantab., Cambridge and Leeds Universities; Stacey Archer Burn, St. Bartholomew's Hospital; Anthony Clifford Clifford, B.A. Cantab., Cambridge University and Guy's Hospital; Albert George William Compton, Cambridge University and St. Mary's Hospital; William James Cran, M.B., Ch.B. New Zealand, Otago University and St. Bartholomew's Hospital; William Henry D[illegible]-Smith, University College Hospital; Alfred Beuthin Danby, Guy's Hospital; Francis L[illegible] Daunt, St. Thomas's Hospital; Kenneth Bruce Dickson, B.A. Cantab., Cambridge University and St. George's Hospital; Philip Geoffrey Doyne, B.A. Oxon., Oxford University and St. Thomas's Hospital; George Dunluce Eccles, Guy's Hospital; Eric Alfred Charles Fazan, Middlesex Hospital; Edwin James Foster, M.B. Toronto, Toronto University and London Hospital; Ivor Stanley Gabe, Durham University and London Hospital; Norman Garrard, B.A. Cantab., Cambridge University and Guy's Hospital; Gerald William Blackman Garrett, B.A. Cantab., Cambridge University and Guy's Hospital; Harold Cane Godding, Guy's Hospital; Edgar Mervyn Grace. B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Bernard Grellier, L.D.S. Eng., Charing Cross Hospital; Cyril James Anthony Griffin, University College Hospital; Frank Arnold Gunesekera, L.M. & S. Ceylon, Ceylon Medical College and London Hospital; Alfred Ernest Hallinan, Charing Cross Hospital; William Edward Hallinan, Charing Cross Hospital; Sydney Hartley Hay, M.B., Ch.B., New Zealand, Otago University and Middlesex Hospital; Arthur Martin Henry, L.D.S. Eng., Guy's Hospital; Frederick Malcolm Sterling Hulke, Middlesex Hospital; Frank Cornwell Hunot, Guy's Hospital; Theodor Julius Juta Jeppe, Cambridge University and St. Thomas's Hospital; David William John, B.A. Cantab., Cambridge University and Guy's Hospital; Robert Edmund Johnston, B.A., M.B. Toronto, Toronto University and Middlesex Hospital; Manishanker Khushaldas Joshi, L.M. & S. Bombay, Bombay University and London Hospital; William Henry Kauntze, B.A., M.B., Ch.B. Manchester, M.B., B.S. London, Manchester University; Kenneth John Taylor Keer, Guy's Hospital; Francis Harry Kelly. Middlesex Hospital; Merlin Kingsley, Calcutta and Manchester Universities and Royal Free Hospital; Herbert Arnold Lake, M.R.C.V.S., University College Hospital; Harold William Latham, London Hospital; Hubert Vere Leigh. Guy's Hospital; Frank Graham Lescher, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Alfred Robinson MacMullen, B.A. Cantab., Cambridge University and London Hospital; Kamberranda Cariapa Mandana, Madras [illegible]x Hospital; Henry Hugh Mathias, B.A. [illegible]versity and London Hospital; Arthur [illegible]ondon Hospital; Louis Marie Jacques [illegible] Cyril Cassan Messiter, L.M.S.S.A., M.A. [illegible]versity and St. Bartholomew's Hospital; [illegible] Moore, Guy's Hospital; Oswald Gayer Morgan, B.A. Cantab., Guy's Hospital; Donald Ewart Morley, London Hospital; Lionel Page, Bristol University; John Lansdowne Perceval, Guy's Hospital; Oswald Pitt, Manchester University; Courtenay Henry Gerard Pochin, Guy's Hospital; Lao Htin Poh, Calcutta University and Middlesex Hospital; Herbert [illegible], Oxford University and St. George's Hospital; [illegible], M.B., B.S. Lond., M.B., Ch.B. Manchester, [illegible]; Stanley Owen Rashbrook, London Hospital; [illegible], St. Thomas's Hospital; Minerva Ellen Reid, M.B. Toronto, Toronto University and Royal Free Hospital; Pierre Roux, London Hospital; John Alfred Ryle, Guy's Hospital; William Henry Price Saunders, Middlesex Hospital; Bernard Edward Patrick Sayers, Middlesex Hospital; William Simpson, St. Bartholomew's Hospital; Reginald Westmore Spence, Westminster Hospital; Charles Marshall Stallard, Manchester University; Rex Stansfeld, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Humphrey Meigh Stephenson, Cambridge University and London Hospital; William John Francis Symons, B.A. Cantab., Cambridge University and St. Thomas's Hospital; James Robert Karran Thomson, London Hospital; Maurice Lawrence Treston, London Hospital; Henry de Paiva Buchanan Veale, J.P., L.S.A., Leeds University; Aubrey William Venables, St. Mary's Hospital; Alfred Stewart Wakely, King's College Hospital; Horace Frederick William Ward[illegible] University and St. George's Hospital; [illegible] B.A. Cantab., Cambridge University [illegible] Philip James Watkin, Guy's Hospital [illegible] B.A. Ca[illegible] pital; [illegible] Wicker[illegible] pital; Bernard Woodhou[illegible] Wilson Woods, London H[illegible] Hospital.

Diplomas in Public Health were also conjointly conferred upon the following 12 candidates—viz:—

Frederick John Ayre, L.R.C.P., M.R.C.S., L.S.A., St. Mary's Hospital and University College, Cardiff; Harold Balme, F.R.C.S., L.R.C.P.. M.R.C.S., King's College; Jamasp Oursetji Bharucha (Lieutenant, I.M.S.), L.R.C.P., M.R.C.S., L.M. & S. Bombay, Bombay University and King's College; Elsie Mary Chubb, M.D., B.S. Lond., Royal Free Hospital and University College; William Edmund Cooke, M.B., Ch.B. Liverp., Liverpool University; Archibald Ferguson, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Bartholomew's Hospital; Clifford Allchin Gill (Captain, I.M.S.), L.R.C.P., M.R.C.S., University College; Harvey Hilliard, L.R.C.P., M.R.C.S., St. George's Hospital and University College; John Edward Hodgson (Major, R.A.M.C.), L.R.C.P., M.R.C.S., Manchester University and Royal Army Medical College; Herbert Michael Henry Melhuish (Captain, I.M.S.), L.R.C.P., M.R.C.S., St. Bartholomew's Hospital and University College; Alexander Loftus Otway (Captain, R.A.M.C.), M.B., B.Ch., B.A.O. Dub., Dublin University and Royal Army Medical College; and Percy Rose, L.R.C.P., Guy's Hospital and University College.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The undermentioned diplomas were also conferred by the Council on the following:—

F.R.C.S.—Bernard Constable Maybury, M.B., B.S. Lond., L.R.C.P., M.R.C.S., St. Thomas's Hospital.

L.D.S.—Lawrance Richards Hr[illegible] Hospitals; William Douglas [illegible] Hospitals; Oscar Henry Tit[illegible] Hospitals; Robert Douglas I[illegible]

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. K. Bötticher, extraordinary professor of surgery, has been appointed Director of the surgical side of the Lichtenberg Hospital; Dr. Friedrich Gudzent has been recognised as *privat-docent* of Medicine; Dr. Ludwig F. Meyer and Dr. Joh. Eckert as *privat-docenten* of Children's Diseases; and Dr. A. Grotjahn as *privat-docent* of Social Hygiene.—*Breslau:* Dr. Josef Forschbach, *privat-docent* of medicine, has been granted the title of Professor.—*Brunswick:* Dr. Adolf Bingel, senior physician of the Ducal Hospital, has been granted the title of Professor.—*Halle:* Dr. E. Abderhalden, professor of physiology, has been awarded the Helmholtz Prize of the Berlin Academy of Sciences. The value is 1800 marks (£90).—*Leipsic:* Dr. Franz Hofmann, who has held the chair of Hygiene for 35 years, intends to retire at the age of 70, which he will reach in the summer.—*Naples:* Dr. U. Masucci has been recognised as *privat-docent* of Medical Semeiology.—*Pavia:* Dr. Giovanni Perez, extraordinary professor of surgical pathology, has been promoted to Ordinary Professor.—*Pisa:* Dr. Alfonso Sertoli has been recognised as *privat-docent* of External Pathology.—*Rome:* Dr. Vincenzo Caraffa has been recognised as *privat-docent* of Medical Pathology.—*Saratoff:* Dr. I. N. Bystrênin, of Kazan, has been appointed Professor of Pædiatry.—*Sienna:* Dr. Onofrio Fragnito, extraordinary professor of neurology and psychiatry, has been promoted to Ordinary Professor.—*Strasburg:* Dr. A. Hamm has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Turin:* Dr. Francesco Lasagna has been recognised as *privat-docent* of Otology and Laryngology.—*Vienna:* Dr. Richard Buer has been recognised as *privat-docent* of Medicine.—*Würzburg:* Dr. Ernst Schmidt has been recognised as *privat-docent* of Surgery.

MIDDLESEX HOSPITAL.—Arrangements are being made for the production during the season of a new musical play, entitled *Claude Abroad*, by Charles and Muriel Scott Gatty, with music by Sir Alfred Scott Gatty and Charles Scott Gatty, for the benefit of the Middlesex Hospital. Lady Churston (Miss Denise Orme) will return to the stage for these performances, and will be supported by many well-known amateurs.

THE SECOND INTERNATIONAL "FIRST AID" CONGRESS.—This congress is to be held at Vienna in September next. Of the British sectional committee the Earl of Londesborough has accepted the presidency, and the vice-presidency has been accepted by Lord Claud J. Hamilton, M.P., while a very influential and thoroughly representative committee have accepted office. Any application or inquiry concerning the same may be addressed to Mr. Samuel Osborn, Constitutional Club, Northumberland-avenue, W.C.

Sir Richard Douglas Powell will deliver two Emeritus lectures on Fridays, March 7th and 14th, at 3 P.M., in the Middlesex Hospital Medical School, on the Climatic Treatment of Pulmonary Diseases.

MEMORIAL TO SIR WILLIAM ALLCHIN.—In memory of the late Sir William Allchin, consulting physician to Westminster Hospital and physician extraordinary to H M. George V., who died on Feb. 8th, 1912, a brass tablet has been placed in the hospital chapel, and a replica of his portrait, painted by Sir Luke Fildes, R A., and presented by Lady Allchin, has been hung in the board-room, where it is thought many of his friends and former pupils would be glad of the opportunity of viewing it.

MEMORIAL TO A MIDLOTHIAN PRACTITIONER.—On Feb 8th, in Lasswade Churchyard, in the presence of representatives of the various public bodies of the district and of the public, a memorial to the late Dr. C. J Allan, of Lasswade, was unveiled by Provost Gilchrist. It is in the form of a handsome Celtic cross in granite, the cost of which has been subscribed by the inhabitants of the district. The Rev. R. M. Hardie, parish minister of Cockpen, who presided over the ceremony, made reference to Dr. Allan's valued work for nearly half a century, both in his profession and as a member of the various boards and institutions.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Administration of the Insurance Act.

THE administration of the Insurance Act has occupied much of the attention of the House of Commons since the beginning of the year This has been mainly evident at question time, when scarcely a day has passed without the appearance on the notice paper of a large number of questions dealing with various matters, sometimes of principle, sometimes of detail, which have arisen from time to time. Amongst members who have particularly taken an interest in questions arising out of medical benefit are Sir PHILIP MAGNUS, Sir HENRY CRAIK, Mr. WORTHINGTON EVANS, Mr. GODFREY LOCKER LAMPSON, and Mr. CASSEL. The former two have in a peculiar sense had a responsibility in the matter, as they represent university constituencies in which medical men are a very considerable element in the electorate. Mr. WORTHINGTON EVANS and Mr CASSEL have shown marked skill in mastering the administrative details of the Act and the Regulations The task of replying on behalf of the Government and the Insurance Commissioners has mainly fallen on the shoulders of Mr. MASTERMAN, the Secretary to the Treasury, whose Parliamentary ability in handling difficult questions has been recognised in all quarters of the House.

Limited Panel Service.

Many of the aspects of medical benefit were dealt with in the debate on the supplementary medical grant in aid on Friday, Feb. 7th. On that occasion the Chancellor of the Exchequer made a defence of the Government's policy. However, the discussions on the Appropriation Bill permitted the House of Commons to review it again. The point of interest in these discussions was the declaration of the Government in regard to the free choice of medical men and limited panel service.

On Wednesday, Feb. 12th, Mr MASTERMAN, in the course of a speech in which he again stated that professional medical secrecy was safeguarded under the system of records which panel practitioners were required to keep, went on to say that the Government always had intended, and still intended, that the Insurance Committees, if they wished to do so, when they had assured adequate medical attendance for all insured persons within their areas, should permit under certain conditions arrangements in connexion with doctors who might not be on the panel. For example, he believed that the London Insurance Committee had granted or was granting a general exemption under Section 15 (3) allowing nurses at hospitals to make their own arrangements with doctors at the hospitals who were not, and who did not want to be, on the panel and who did not want to attend insured persons outside the hospitals Similarly conditions might be laid down with regard to allowing doctors to go on the panel to attend only a limited number of persons. This practice in the working of any Insurance Committee must be qualified by one dominant consideration—the duty of the Insurance Committee in conjunction with the doctors on the panel to see that every insured person within their area received adequate medical attendance. A medical man who did not want to have 1000 or 2000 insured patients, might be quite willing to go on attending at the ordinary insurance rate—say the servants in the houses where he had been attending. He had been in consultation with the Chairman of the London Insurance Committee on the subject, and he said, as the Commissioners said in conjunction with the Insurance Committee, that there was no kind of objection to these cases being met by Insurance Committees permitting doctors to go on the panel in order to attend a limited number of cases, so long as that was done in conjunction with an agreement with the doctors on the panel, and so long as the system could be interwoven with a system whereby adequate medical attendance could be given to every insured person within the area. He had not the slightest doubt that this could be done. The right honourable gentleman went on to refer to "a definite, deliberate and avowed attempt to break the Act to pieces in London." He maintained that the Insurance Committees when confronted with this avowed and organised conspiracy were perfectly justified in saying, "Until we have assured medical attendance for all the insured persons in our areas, if possible by the panel system, if not by some other system, we will not have the Act broken up by 'own arrangements'" The great bulk of requests for "own arrangements" which had come in to the Insurance Committees with which he had been in contact had not been *bonâ fide* applications at all. They had come in on forms all in the same handwriting, evidently the result of a canvass in which probably complete misapprehension had been created in the minds of insured persons as to the real meaning of the Act On the other hand, peace being restored, as he believed it was, the doctors, he anticipated, if only they were left alone would be found working the Act with ever increasing enthusiasm. With friendly conjunction between the Insurance Committees and the panel doctors, arrangements being made to meet the needs of all the insured persons in the area he saw no reason at all why in certain special cases the use of Section 15 (3) should not be allowed where special circumstances were made out for it What would be better still would be that doctors should, with friendly arrangements with their colleagues, come on the panel for a limited number of insured persons only.

Two Important Reservations.

Mr. MASTERMAN elaborated in some respects his statement on the use of Section 15 (3) in the debate on the third reading of the Appropriation Bill on Friday, Feb. 14th. He said that in regard to exceptional cases in which for some special reason doctors did not wish to enter their names on the panel for general work, and insured persons wished to choose those doctors, no obstacle would be placed in the way of Insurance Committees exercising their discretion in any manner which they desired in order to allow exceptional cases to be dealt with under the exceptional clauses of the Act so long as the Insurance Committees were fulfilling the primary purpose for which they were created—namely, to give medical benefit to every insured person within the Act. The Government agreed with the suggestion of the chairman of the London Insurance Committee that doctors who wished to take only a limited number of patients should be permitted to come on the panel for such limited number. But that was subject to two important reservations. The first was that it would be unfair that they should be allowed to pick out special lives with less than the average rate of sickness and yet receive the remuneration which the Government believed to be a liberal one for average lives. Doctors who took selected lives should be willing to receive less remuneration for those selected lives, in order that more remuneration might be given to those doctors who did not limit themselves to selected lives. The second condition must be that the Insurance Committees could only give consent to doctors taking a limited number of lives in conjunction with the free approval of medical men who took the general risk. The right honourable gentleman then went on to explain that there was no intention whatever of bringing in inspectors to examine the methods of treatment and diagnosis adopted by medical practitioners on the panel. On the question of mileage in difficult districts in the Lowlands of Scotland the Government were providing a special grant. The Commissioners would draw up a scheme of distribution, and it would be retrospective, so that the allowances would be paid from the commencement of the Act.

Tuberculosis Prevention (Ireland) Bill.

When the Tuberculosis Prevention (Ireland) Bill reached the House of Lords from the House of Commons on Thursday, Feb 13th, two of the clauses which originally stood in it had been struck out. The first two clauses were deemed important, but the Chief Secretary to the Lord Lieutenant for Ireland, Mr. BIRRELL, found that they were likely to produce opposition in the House of Commons. In order to allow the Bill to proceed as an uncontroversial measure he agreed to drop them.

The first clause which was struck out in Committee of the House of Commons extended the provisions of Part I of the Tuberculosis Prevention (Ireland) Act to the whole of Ireland.

Clause 2, which also disappeared, provided that certificates with regard to a person suffering from tuberculosis which had now to be sent to the medical officer of health should be sent to the medical superintendent of the nearest dispensary. The latter was to report to the sanitary authority.

The Bill has been read a third time by the House of Lords.

Royal London Ophthalmic Hospital, City-road, E.C.—Lang Clinical Research Scholarship. Salary at rate of £120 per annum. Also Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

Royal Naval Medical Service.—[illegible]

Royal Westminster Ophthalmi[illegible] West Strand, W.C.—Pathologist [illegible]

St. George's Dispensary and School Clinic, Surrey-row, Blackfriars, S.E.—Junior Medical Officer for three or six months. Salary at rate of £100 per annum. Also Surgeon to the Nose, Throat, and Ear Clinic for the Treatment of Elementary School Children. Salary at rate of £50 per annum.

Scarborough Hospital and Dispensary.—Junior House Surgeon for six months. Salary £80 per annum, with board, residence, and allowance for laundry.

Sheffield Union Hospital, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments and rations.

Smethwick, Cornwall Works Dispensary.—Assistant Medical Officer. Salary £300 per annum.

Southampton Free Eye Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

Southampton, Royal South Hants and Southampton Hospital.—Junior House Surgeon for six months. Salary at rate of £60 per annum, with rooms, board, and washing.

South Africa Lunatic and Leper Asylum Service.—Junior Medical Officer, unmarried. Salary £280 per annum, with quarters.

Stafford, Coton Hill Mental Hospital.—Assistant Medical Officer, unmarried. Salary £170 per annum, with residence, board, and laundry.

Stockport Infirmary.—Junior House Surgeon. Salary £80 per annum, with board, washing, and residence.

Stockport Union, Stepping Hill Hospital.—Resident Assistant Medical Officer. Salary £150 per annum, with apartments, rations, &c.

Stroud General Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

Sunderland Children's Hospital.—Resident Medical Officer for six months. Salary £80 per annum, with board, residence, and laundry.

Swinton and Pendlebury Urban District.—Medical Officer of Health and Schools Medical Officer. Salary £325 per annum.

Ventnor, Royal National Hospital for Consumption and Diseases of the Chest.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.

Victoria Hospital for Children.—Surgeon to Out-patients.

Walsall and District Hospital.—Assistant House Surgeon. Salary £90 per annum, with board, residence, and laundry.

Western General Dispensary, Marylebone-road, N.W.—Honorary Physician.

Western Ophthalmic [illegible] N.W.—Non-resident House Surgeo[illegible] per annum.

West London Hospital, [illegible] House Physicians and Three House Surgeons for six months. Board, lodging, and laundry provided.

York Dispensary.—Resident Medical Officer, unmarried. Salary £140 per annum, with board, lodging, and attendance.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Castletown, Berehaven, in the county of Cork; and at Hoylake, in the county of Chester.

The Secretary of State for the Home Department gives notice of a vacancy for an Ophthalmic Specialist Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuits Nos. 21, 22, and 36.

Births, Marriages, and Deaths.

BIRTHS.

Dyson.—On Feb. 12th, at Lower-road, Rotherhithe, S.E., the wife of Malcolm Goodworth Dyson, F.R.C.S., of a daughter.

Jordan.—On Feb. 19th, at 11, Bentinck-street, W., to Dr. and Mrs. Alfred C. Jordan, a son.

Pennington.—On Feb. 12th, at Queen-street, Mayfair, W., the wife of Drury Pennington, M.B., of a son.

MARRIAGES.

Adams—Appleyard.—On Feb. 15th, at St. Marylebone Parish Church, James Wilmot Adams, M.B., B.C. Cantab., to Irene, youngest daughter of the late Dr. James Appleyard, of Longford, Tasmania.

DEATHS.

Boyd.—On Feb. 15th, at Sloane Court, S.W., Campbell Boyd, L.R.C.P.I., L.M., the beloved husband of Isabell Boyd, after a short illness.

Chavasse.—On Feb. 17th, at The Linthurst Hill, Barnt Green, Worcestershire, Sir Thomas Chavasse, F.R.C.S., aged 58.

Dyson.—On Feb. 12th, at Lower-road, Rotherhithe, S.E., Malcolm Goodworth Dyson, F.R.C.S., aged 45 years.

Hart.—On Feb. 10th, at St. Stephen's-avenue, Ealing, Herbert Wheatley Hart, M.D., in his 55th year.

Scarth.—On Feb. 17th, at Stanghow, Isaac Scarth, M.B., B.S. Lond., B.Sc. Manch. Univ., the beloved husband of Rosa Marion Scarth, in his 59th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

CHANGE OF ADDRESS.

When a medical man moves house it is only natural that he should wish to announce the fact to his colleagues as soon as possible, since early notice of the new address may save much inconvenience to himself and them. But at present the opportunities for making such announcements are limited. Professional etiquette rightly debars medical men from advertising their change of address in the lay newspapers, while the various directories—medical, Post Office, and telephone—appear at too long intervals to be of help during the period of worst confusion. It is thus not very easy for medical men to keep themselves and each other informed of removals within the profession, for the Post Office is a laborious medium of communication, and the students' gazette of any individual hospital reaches only one section of the medical world. This disadvantage has several times been brought to our notice by readers, and the remedy always suggested to us is that The Lancet should reserve a special place week by week for brief announcements of new addresses and new telephone numbers. After inquiry we have come to the conclusion that this form of publicity would be welcomed by our readers generally, and we therefore propose to institute a Change of Address column to come immediately after the announcements of Appointments and Vacancies.

VITAL STATISTICS OF BARBADOS.

A report on the Blue-book of Barbados for the year 1911-12 gives the population of the colony as 173,422—71,544 males and 101,878 females. The birth rate per 1000 was 35·2 and the death-rate 26·3. Illegitimate births numbered 3546, or 58 per cent. of the total births. The burials of children under a year old numbered 1605, giving a rate of 263 per 1000 births. The relation of infantile mortality to illegitimacy cannot be ascertained from the returns at present authorised by law; but steps for the reduction of the rate of infantile mortality are engaging the serious attention of the Government and the parochial authorities. The Barbados General Hospital, situated in Bridgetown, is maintained by Government grant, but is not directly under Government control. It is governed by a court of directors of 18, of whom 16 are so either *ex officio* or by appointment from the Legislature, and the remaining two are life members. In 1911 there were 3759 admissions, 276 deaths, and 27,132 out-patients. The daily average in hospital was 200. At the lazaretto there were 14 admissions and 12 deaths, leaving 116 inmates at the end of the year. The average daily number was 114·6. There is no legally compulsory segregation of lepers. The average maximum temperature was 83·8° F. and the average minimum 75·3°. The highest temperature for the year was 89·1° on August 10th, and the lowest 61·0° on Feb. 20th. The rainfall of the island for the year, as registered at 154 stations, was 59·28 in., which was rather below the average. The number of tourists visiting the island during the year was 2164. The visitors may be divided into three categories: (*a*) Those brought by tourist ships, who stay only for a day; (*b*) tourists from Europe and North America, who stay at the principal hotels or rent houses during the winter months; (*c*) visitors from South America, particularly Brazil, who rent houses near the sea during their stay, which, owing to the island's reputation as a health resort, is generally of considerable duration. For the special accommodation of this class, Brazilian hotels are now being established. In connexion with one of the principal articles of manufacture in the colony—rum, to wit—it is remarked in the report that "a by-product of the manufacture is fusel oil. The quantity is not large enough for profitable export, but every drop is much sought after as a lotion, by the use of which sufferers from rheumatism can obtain immediate comfort and ultimate cure."

THE PATHOLOGY OF THE PEARL.

An interesting account of the Ceylon pearl fisheries is given by Mr. S. Muttiah in the February number of the *London Hospital Gazette* together with many particulars about the industry and the methods of conducting it. The theory of pearl formation adopted by the Royal Society's Commission 10 or 12 years ago was that of a pathological secretion formed round some foreign body, such as a grain of sand; and such an explanation is certainly plausible, in view of the fact that only a small percentage of the oysters from the Ceylon beds contain pearls. Two other theories are mentioned by Mr. Muttiah: one ascribes the process to the irritation of the dead larvæ of a parasitic worm (*tetrarhynchus*); the other to a disease of the muscles of the oyster somewhat analogous to the formation of gall-stones in human beings. All three views agree in regarding the pearl as pathological, not physiological. We are not told how differences in colour are explained, especially such very marked differences as in the curious pink, yellow, and often very irregularly shaped pearls which are found on the Bahama banks in another species of mollusc Nor has science yet succeeded in improving on Nature's wasteful and inefficient processes by rendering possible the artificial encouragement and control of pearl formation; but stranger things have happened, and this is by no means beyond the bounds of possibility. The fishing on the Ceylon banks is conducted in the most primitive way by natives of at least half a dozen races, of whom the Arabs are said to be able to stay longest under water—namely, 60 to 85 seconds As a rule, it appears, the average diver does not suffer materially in health from his occupation, though deafness is very common The usual maximum depth worked is seven fathoms, at a pressure of about two and a quarter atmospheres On one occasion when a deeper bed was fished at nine fathoms five men collapsed, of whom two died, but, as a general rule, the divers live as long as others of the coolie class Years of good harvest alternate with lean ones, thus, in 1814 the catch yielded £105,187, while in 1815 the revenue was £584 In 1906 the Ceylon Government leased the fishing to a London syndicate for a rent of £310,000 per annum, but a couple of years later it was found that beds of young oysters which should have been left to grow had been destroyed, and it is understood that the syndicate is seeking to be released from the agreement

THE RECORD PACE.

ON Saturday last, on the Brooklands track, Mr Percy Lambert, an amateur, drove a Talbot 25 h p car 103¾ miles in an hour It is reported *that this is the first time in the history of the world* that a human being has travelled 100 miles on land within 60 minutes Probably there are not many human beings who desire such a distinction

HEALTH AND SANITATION IN TRINIDAD AND TOBAGO

A REPORT on the Blue Book of the Colony of Trinidad and Tobago for the year 1911-12 gives the estimated population as 340 223 The number of births recorded during the year was 11,674 as compared with 11,570 in 1910-11 The deaths numbered 7870, as against 7448 *in the preceding year* The *birth rate*, calculated on the mean population is shown to be 34 65 per 1000 and the death rate 23 36 The principal causes of death during the year were diarrhœa and enteritis, 951, malarial fever, 722, typhoid, 87, pulmonary tuberculosis 631, other forms of tuberculosis, 62, bronchitis, 372, pneumonia 306 Nearly all the medical officers report favourably on the general health conditions of their districts during the year there being little infectious disease and no unusual prevalence of endemic disease A mild type of measles, unattended by any deaths occurred in some districts Five cases *of* bubonic plague occurred during the year, four being fatal Precautionary measures against this disease are actively carried on at all *times*, and *during* the *year* 22,658 *rats* were caught, of which 16 682 were bacteriologically examined for evidence of plague infection Only one infected rat however, was discovered No case of yellow fever occurred, indeed there has been no case since April, 1910 The work of mosquito reduction is regularly carried out and the good results obtained are sensibly felt in Port of Spain where 131 convictions for breach of the mosquito regulations were obtained and fines amounting to £26 recovered

Some of the district medical officers refer to the inadequate supply of water in their districts leading to the use of sources of supply unfit for domestic purposes more especially during the prevalence of severe droughts and thus giving rise to diarrhœal and dysenteric affections The water supply in many districts is very deficient in the dry season and the question of the provision of additional sources of good water presents great difficulty Borings have been made by the Government with indifferent success, and the matter is receiving *attention The Colonial Hospital, Port of Spain*, is the *most* important in the colony The number of patients admitted at this institution during the year was 6218, the daily average in hospital being 304 There were 718 deaths Of the patients discharged, 2110 were cured, 3151 relieved, and the condition of 250 not improved At the San Fernando Hospital 3091 persons were admitted, the daily average of patients being 97 The deaths numbered 374 Of the patients discharged 552 were reported as cured, 2009 as relieved, and 180 as not improved There are district hospitals maintained by the Government at Tobago, Arima, *St Joseph*, Tacarigua, Couva Princes Town, and Cedros there are also temporary hospitals available when required, at Chaguanas, Sangre Grande, and Mayaro There are two hospitals specially devoted to the treatment of persons suffering from yaws in *Trinidad* and Tobago In connexion with this disease extraordinarily good results were obtained at the St Augustine Yaws Hospital by Dr H M Alston and Mr. W F Cleaver by the use of salvarsan Out of 500 cases injected in 1911, 498 were cured, 409 with one injection, 75 after two injections, and 14 after three injections The Leper Asylum, situate at Cocorite near Port of Spain, contained 225 inmates at the close of the year There had been 90 admissions during the year, 40 discharges and 38 deaths

The mean rainfall for the Colony of Trinidad and Tobago for the year 1911, *compiled from observations taken* at 85 stations, was 62 44 inches, as compared with 82 65 inches in 1910 (an exceptionally wet year) The mean maximum temperature for the year at the St. Clair experiment station, Port-of Spain, was 86 1, and the mean minimum temperature 68 5°. The climate of Trinidad is not unhealthy for a tropical colony situated so near the Equator. From January to April the heat during the day is not excessive; the nights are cool, and occasionally even chilly, during the whole year. Europeans who take reasonable care of themselves enjoy excellent health in almost every part of the colony In a few malarial spots special care is necessary to avoid contracting fever, but these places are well known and are limited in extent

SHORT SEA TRIPS FOR EARLY HOLIDAYS

THOSE who find it necessary or desirable to take a holiday early in the year—and their number seems to be increasing—may be recommended to consider the 15-day sea trips to Gibraltar and the Mediterranean which the Orient Line has organised. In this way a pleasant "change" can be obtained at this season of the year, and a brief visit to Spain or the Riviera is well worth making The man of modest means will find the second saloon accommodation quite good as well as extraordinarily cheap

A NEW SPANISH MEDICAL JOURNAL

A NEW medical monthly has just made its appearance in Valencia under the title *Policlinica* This first number contains original articles on Tuberculosis in Children and its Treatment by Immunising Bodies (Spengler's method), by Dr D Aguilar Jordan; Pericardial and Perihepatic Symphysis, with coloured illustrations, by Dr. Pastor Reig, and on Physiological Regeneration of the Blood in Anæmia, by Dr. Fillol Also a considerable number of synopses of articles in foreign medical journals

A MEDICAL OFFICER OF HEALTH FOR EAST LONDON, SOUTH AFRICA

WITH regard to this appointment, applications for which are invited in our advertisement columns, we have received a letter asking intending applicants to communicate with Dr J Tremble, secretary of the Border branch of the British Medical Association, at Frere Hospital, East London

THE UNIVERSAL ESPERANTO MEDICAL ASSOCIATION.

Mr. G Jameson Johnston, professor of surgery in the School of the Royal College of Surgeons of Ireland, has been elected President of the Universal Esperanto Medical Association in succession to the late Professor Dor, of Lyons

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S J R—There is no alcohol in the coffee-berry, and even if small quantities were present, contingent on fermentation of sugar, they would be entirely dissipated in the roasting process, the tempera- [illegible]

[illegible]

capable of producing are not due to alcohol

German—The position in this and all analogous matters will have to be decided by Insurance Committees, who quite conceivably may take different views in different districts

Tropics—The current edition of the *British Pharmacopœia* was published in 1898

COMMUNICATIONS not noticed in our present issue will receive attention in our next

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A DIARY OF CONGRESSES

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement The following Congresses, Conferences, and Exhibitions are announced —

March 1st (University of London) —Eugenics Education Conference
" 17th-20th (Paris) —International Congress of Physical Education
(Easter week) (Berlin) —Fourth International Congress for Physiotherapy
March [illegible] the German Association
" [illegible] Congress of the German
" 29th and 30th (Berlin) —Ninth Congress of the German Roentgen Society.
April 3rd-9th (London) —International Congress of Historical Studies
" 6th-12th —Health Week
" 22nd-25th (London, Horticultural Hall) —Nursing Conference [illegible]
" [illegible]
May [illegible] of the Royal

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

Thursday.—Mr. C. F. Jenkin and Mr. D. R. Pye: The Thermal Properties of Carbonic Acid at Low Temperatures (communicated by Sir J. A. Ewing).—Mr. E. Roberts: Re-reductions of Dover Tidal Observations, 1883–1884 (communicated by Lord Rayleigh, O.M.).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

Monday.

Section of Odontology (Hon. Secretaries—Stanley P. Mummery, Robert McKay): at 8 p.m.

Mr. G. H. Berwick: Restoration after Surgical Operations.

Casual Communications:

Mr. A. E. Ironside: Hypertrophy of Gums in Child. Patient Present.
Mr. L. Stanley Kettlewell: Fibroma of Maxilla.
Mr. H. J. Relph: Odontome.
Mr. F. J. Smyth: Misplaced Mandibular Canine.

Tuesday.

Section of Medicine (Hon. Secretaries—Robert Hutchison, H. Batty Shaw): at 5.30 p.m.

Papers:

Dr. F. Parkes Weber: [illegible] Secondary Polycythæmia in [illegible]
Dr. Gordon R. Ward: [illegible]

Friday.

Section for the Study of Disease in Children (Hon. Secretaries—H. S. Clogg, F. Langmead, P. N. Blake-Odgers): at 4.30 p.m.

Cases:

Dr. F. Parkes Weber: Flexion and Ulnar Deflection of the Fingers.
Dr. F. G. Crookshank: Mongoloid Child of European Descent.
Mr. J. E. Adams: Two Cases in same Family of Congenital Coalescence of Radius and Ulna.
Mr. Douglas Drew: (1) Plastic Operation for Contraction after Burn of the Hand; (2) Plating for Separation of Lower Epiphysis of Femur, done 3 Years Ago, Plate not removed; (3) Large Lymphangioma removed from an Infant of 9 Months.
Mr. D. [illegible] Years ag[illegible]
Dr. E. [illegible]

Paper:

Dr. H. Charles Cameron: Summer Diarrhœa and Summer Heat.

Section of Epidemiology (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 p.m.

Papers:

Dr. William Butler: Measles.
Mr. B. Glanville Corney, I.S.O.: A Note on an Epidemic of Measles at Rotumá, 1911.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

Monday.—8.30 p.m., Mr. Ralph Thompson: Unilateral Renal Lesions, to be followed by Mr. T. Walker and others.—Dr. O. Kauffmann: Some Experiments on the Urinary Excretion of Potassium Iodide and their Clinical Significance.

HUNTERIAN SOCIETY, London Hospital, Mile End-road, E.

Wednesday.—4 p.m., Clinical Afternoon.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

Wednesday.—8 p.m., Mr. H. J. Wilson: The Education and Employment of the Blind.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

Thursday.—7.30 p.m., Dr. A. Wilson: Development of the Child's Brain (illustrated by lantern slides).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

Tuesday and Thursday.—5 p.m., Dr. A. J. Jex Blake: Death by Lightning and Electric Currents. (Goulstonian Lectures.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

Monday, Wednesday, and Friday.—5 p.m., Prof. A. Keith: The Upright Posture, its Evolution and Diseases. (Hunterian Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

Monday.—4 p.m., Dr. S. E. Dore: Clinique (Skin). 5.15 p.m., Lecture:—Mr. V. Z. Cope: [illegible]

Tuesday.—4 p.m., Dr. J. Parki[illegible] 5.15 p.m., Lecture:—Dr. A. Routh: Late Puerperal Complications.

Wednesday.—4 p.m., Mr. G. E. Waugh: Clinique (Surgical). 5.15 p.m., Lecture:—Dr. A. F. Tredgold: Acquired Mental Defect.

Thursday.—4 p.m., Dr. R. H. Miller: Clinique (Medical). 5.15 p.m., Lecture:—Mr. A. Edmunds: Deformities of the Penis and their Treatment.

Friday.—4 p.m., Dr. D. McKenzie: Clinique (Ear, Nose, and Throat). 5.15 p.m., Dr. W. Wingrave: The Tonsils.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

Monday.—10 a.m., Dr. Simson: Diseases of Women. 10.30 a.m., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. Mr. Dunn: Diseases of the Eye. 5 p.m., Lecture:—Mr. Armour: Operations for Hernia.

Tuesday.—10 a.m., Dr. Robinson: Gynæcological Operations. 10.30 a.m., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 p.m., Diseases of the Skin. 5 p.m., Lecture:—Mr. Pardoe: Clinical (Urinary Surgery).

Wednesday.—10 a.m., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 a.m., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 p.m., Lecture:—Dr. Owen: Granular Kidney.

Thursday.—10.30 a.m., Dr. Simson: [illegible]ation. 12.15 p.m., Lecture:—Dr. G. [illegible] Cases. 2 p.m., Medical and Surgical [illegible] Operations. Mr. Dunn: Diseases of [illegible]ure:—Mr. Ll. Williams: The Mouth as a Source of Infection, Local and General.

Friday.—10 a.m., Dr. Robinson: Gynæcological Operations. 10.30 a.m., Lecture:—Dr. Owen: Demonstration at Victoria Park Hospital. 12.15 p.m., Lecture:—Dr. Bernstein: Clinical Pathology. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 p.m., Diseases of the Skin. 5 p.m., Lecture:—Dr. Abraham: Cases of Skin Disease.

Saturday.—10 a.m., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 10[illegible] Demonstration of Cases in Wards. [illegible] Surgical Anatomy of the Abdom[illegible] Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

Monday.—Out-patient Demonstrations:—10 a.m. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 p.m., Mr. W. Turner: Surgery. 3 p.m., Mr. W. Turner: Operations. 3.15 p.m., Sir Dyce Duckworth: Medicine. 4.15 p.m., Mr. R. Lake: Ear and Throat.

Tuesday.—Out-patient Demonstrations:—10 a.m., Dr. G. Holmes: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 p.m., Mr. L. McGavin: Operations. 2.15 p.m., Mr. R. Carling: Surgery. 3.15 p.m., Dr. G. Rankin: Medicine.

Wednesday.—Out-patient Demonstrations: 10 a.m., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 a.m., Mr. R. E. Bickerton: Eye.——2 p.m., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 p.m., Dr. F. Taylor: Medicine. 3.15 p.m., Mr. Cargill: Eye Clinique. 4.30 p.m., Mr. C. C. Choyce: Surgery.

Thursday.—Out-patient Demonstrations:—10 a.m., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 p.m., Mr. R. Carling or Mr. W. Turner: Operations. Dr. A. Davies: Pathological Demonstration. 3.15 p.m., Dr. R. Wells: Medicine.

Friday.—Out-patient Demonstrations;—10 a.m., Dr. G. Holmes: Medical. Mr. A. J. Walton: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 p.m., Mr. L. McGavin: Operations. 2.15 p.m., Sir John Rose Bradford; Medicine 3.15 p.m., Mr. L. McGavin: Surgery.

Saturday.—Out-patient Demonstrations: 10 a.m., Dr. F. Langmead: Medical. Mr. P. Cole: Surgical. 11 a.m., Mr. R. E. Bickerton: Eye.——10 a.m., Dr. W. Steuart: Radiography.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

Monday.—Clinics:—10.30 a.m., [illegible] (Mr. E. Gillespie). 2.30 p.m., Medical [illegible] Nose, Throat, and Ear (Mr [illegible] Pathology and Pathological Demonstration (Dr. W. H. Dun[illegible]).

Tuesday.—Clinic; 2.30 p.m., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 p.m., Medical In-patient (Dr. [illegible] .m., Lecture:—Mr. H. W. Carson: Some [illegible] Appendicitis.

Wednesd[illegible] Throat Operations (Mr. Gillies). 2.30 p.m., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 p.m., X Rays (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 p.m., Eye Operations (Mr Brooks).

Thursday.—2.30 p.m., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 p.m., Medical In-patient (Dr. G. P. Chappel).

Friday.—2.30 p.m., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 p.m., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 4.30 p.m., Lecture:—Mr. R. P. Brooks: Chronic Glaucoma and the New Operations for its Cure.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

Wednesday.—4.30 p.m., Dr. Melville: The Aid of Radiography in the Diagnosis of Intra-thoracic New Formations.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.

Course of Lecture-Demonstrations on Diseases of the Chest, with Special Reference to Tuberculosis (including a Tuberculin Course):—

Monday.—4.30 p.m., Dr. W. H. White.
Thursday.—4.30 p.m., Dr. Calvert.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC Queen square Bloomsbury, W C

TUESDAY —3 30 P M, Clinical Lecture —Dr G Stewart: Treatment of Motor Paralysis

FRIDAY —3 30 P M, Clinical Lecture —Dr G Stewart Treatment of Ataxia

CANCER HOSPITAL Museum of the Hospital Fulham road S W

WEDNESDAY —5 P M Mr C Rowntree: The Treatment of Inoperable Cancer (illustrated by cases and microscopic and other specimens)

LISTER INSTITUTE OF PREVENTIVE MEDICINE Chelsea Bridge road S W

TUESDAY —5 P M, Dr J H Smith Serum fast Bacteria

THURSDAY —5 P M, Dr H Maclean Lipoids

ST JOHN S HOSPITAL FOR DISEASES OF THE SKIN 49 Leicester-square W C

TUESDAY —2 P M Dr W Griffith The Pathology of the Skin

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, 14	30 44	N L		45	41	34	36	36	Foggy
15	30 28	S W		41	41	36	38	39	Overcast
, 16	30 25	N E		72	46	35	36	37	Cloudy
" 17	30 24	N E	0 07	53	44	36	37	39	Overcast
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By advanced cases I do not mean merely those of long duration, for, as a matter of fact, the cases in which operation can be undertaken with least risk include some in which the disease has been in progress for several years. I refer to the acuteness of the intoxication and the presence of secondary degeneration of viscera, especially of the heart, rather than to the duration of the disease.

Those who have studied in detail the literature of the subject, and more particularly those who have had the opportunity of seeing many cases before and after operative treatment, cannot fail to be struck by two main facts—firstly, the danger of the operation as often performed; and, secondly, the undoubted benefit that results in a large proportion of cases.

We have to consider how far the benefit justifies the risk. At the outset of our inquiry we are met with difficulties. For instance, what is exophthalmic goitre? If we include under this term only the well-marked cases, with all the usual signs and symptoms, we shall find that the operative mortality is very much higher than it is if we follow the tendency of the present day and allow the term to embrace many cases whose claim to this position is at least very doubtful. For instance, a patient with an ordinary parenchymatous goitre, or an adenoma, or cyst of the thyroid, who has some tachycardia and complains of palpitation, is regarded by some observers as a case of mild exophthalmic goitre, by others as an instance of hyperthyroidism, and therefore belonging to the same class, despite the fact that the majority of these cases, if allowed to progress, never develop exophthalmos or the more serious characteristic symptoms of the disease. The validity of these claims I discussed fully in my last lecture, and I will not now enter into the question again. The point which I wish to emphasise is this: that the mortality statistics of two operators equally skilled, and operating in exactly the same manner, will differ enormously if the one includes in his statistics only such cases as come strictly within the limits of the first group, while the other does not hesitate to include all the far less serious forms that constitute the second group.

We should be very careful, then, in drawing conclusions from mortality statistics, as given in published records, unless we know to what class of cases the statistics refer. Probably the only safe test is the pathological one. As I have shown in my first lecture, every case of true exophthalmic goitre is accompanied by definite pathological changes in the thyroid, which should be recorded if the statistics are to be of any real value. Mortality statistics based upon such pathological findings are rare in medical literature at the present day. Another difficulty with which we meet is the fact that cases of Graves's disease do not pursue a uniform and progressive course. While one case will progress gradually from bad to worse, and perhaps even end fatally, in another the disease, for no apparent reason, will come to an end spontaneously. If we knew that every case if untreated would get steadily worse, the dangers of the operation would require less serious consideration. Nobody hesitates to operate for even the worst case of strangulated hernia, because the risk to life if no operation is performed is far greater than the risk of the operation. But with a disease that is not necessarily fatal we should inquire very carefully into the risks of the proposed operation before we recommend it.

Results of Medical Treatment

First, let us consider the mortality of cases of Graves's disease that are treated medically. We find that it is not very high. Dr. Hale White has investigated carefully the after-histories of a large number of patients, and concludes "that the mortality among sufferers from exophthalmic goitre was about twice that among the general population for the same age and the same time."[2] Dr. Hector Mackenzie,[3] after a very large personal experience of the subject from the medical point of view, came to the conclusion that of cases treated on broad general medical lines about 25 per cent. made a good recovery; another 25 per cent. were very much improved, and, although not cured, the patients were in fair health and able to follow their occupations; another 25 per cent. became more or less chronic invalids; while the remaining 25 per cent. lost their lives from the disease itself, after a longer or shorter illness. Dr. George Murray[4] has expressed the opinion that "the prognosis usually given in text-books is too pessimistic, as a very considerable number of cases do either completely or partially recover without operation."

There can be no doubt, however, that medical treatment really does very little to influence the course of the disease. Most of the patients who recover do so only after a prolonged period of ill-health and often of great distress. The sufferings of patients with well-marked Graves's disease are usually (although not always) so great that they are only too ready to undergo any operation which offers them a chance of relief.

The Mortality of Operation for Graves's Disease.

When we come to consider the mortality of the operation for exophthalmic goitre we find that it is very difficult, indeed impossible, to make any definite statement. So much depends upon the individual operator, upon the method of operating, upon the nature of the operation performed, and especially upon the selection of cases submitted to treatment. Mr. Wilfred Trotter, taking the experience of representative surgeons on the continent, has expressed the opinion that "out of the first 50 cases of any given surgeon he will usually lose five as a direct result of the operation," and that this 10 per cent. mortality is usually considerably reduced in a surgeon's later work, and "is no doubt to some extent to be regarded as a measure of the difficulty in acquiring the special kind of knowledge which goes to successful operating on these cases." This seems to me to be a very reasonable estimate, for though it is easy to find series of cases in which the mortality is a good deal higher than this, yet it must be remembered that statistics often include cases operated upon years ago, when technique was by no means as good as it is now, and when much less care was taken in the choice of cases for operation. Thus the Mayos, who obtain such brilliant results at the present day, lost 4 out of their first 16 patients, von Eiselsberg 3 out of his first 4, and so forth.

The number of patients upon whom I have myself operated for exophthalmic goitre is comparatively small, amounting up to the end of 1912 only to 27. These were all cases of undoubted Graves's disease, in which all the classical symptoms, including exophthalmos, were present, mostly in a very marked form. Of these 26 patients, 2 have died as the result of operation, 1 in 1901 after simultaneous ligation of three arteries, and 1 in 1911 after a bilateral excision. To these cases I shall refer later. The patient with severe Graves's disease, who died before I commenced the intended operation of ligation of a superior thyroid artery, and whose case I described fully in my last lecture, is not included in these statistics. But on looking through the notes of my last 351 goitre operations I find there were at least 33 other patients of whom it is stated that rapidity of pulse, tremor, nervousness, or some similar symptom was one of the principal reasons for operation. Most of these cases would undoubtedly be classed as instances of exophthalmic goitre by those who are not so rigid in their definition of the disease as I am myself. Among these there were no deaths; nor were there any deaths among the cases of like nature in my first 400 operations, which I have already published in full elsewhere, and to which I make no further reference.

SELECTION OF CASES AND TIME AND METHOD OF OPERATION.

Dr. Charles Mayo, writing in July, 1912, states that within the last year he and his colleagues have operated on a consecutive series, between deaths, of 278 cases of exophthalmic goitre without a death, and goes on to say that he believes that this marked improvement upon the statistics of his early cases has been caused by taking into account the so-called "factors of safety" in connexion with the examination, preparation, and operative treatment of these patients. In order to ascertain as far as possible what these factors of safety really were, and to see for myself what cases were actually being operated on by those surgeons who have had the largest experience in the world of the surgery of exophthalmic goitre, I paid in the course of last year visits to the famous clinics of Berne and of Rochester, Minnesota.

At Berne I was somewhat unfortunate in my experience, as during the week I spent there Professor Kocher did not, as it happened, operate on any case presenting symptoms of Graves's disease. I saw several cases upon whom operation had been already performed, and I saw a number of operations for ordinary goitre which gave me an opportunity of seeing his technique, which is the same, I was told, for the exophthalmic variety. This did not differ in essentials from that at Rochester or from that of most surgeons who have much to do with goitre operations, which, indeed, is not surprising, since it is largely from Professor Kocher that most of us have learnt our technique.

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[2] Debate at the Royal Society of Medicine, 1912, vol. v., Surgical Section, p. 81. See also the much fuller report in Quarterly Journal of Medicine, Oxford, 1910, vol. iv., pp. 88-99.

[3] Debate at the Royal Society of Medicine, 1912, vol. v.

[4] Ibid., THE LANCET, Feb. 24th, 1912, p. 490.

At Rochester, during the two separate weeks that I spent there, I had the opportunity of seeing numerous operations upon exophthalmic as well as upon ordinary goitres. I found not only the Mayos themselves, but their colleagues, Dr. Judd, Dr. Beckman, and Dr. Plummer, and the pathologist, Dr. Louis Wilson, all most willing to explain fully in the most open manner exactly what they were doing, and to afford me every opportunity of seeing their patients before, during, and after operation, and the pathological specimens themselves. It is difficult to speak too highly of the care exercised in the examination and preparation of patients before operation, of the operative technique, or the scrupulous accuracy with which their records are kept.

Dr. Plummer, the physician, examines with the most minute detail every exophthalmic goitre patient, in consultation with one of the surgeons, and recommends the suitable cases for operation, or, if necessary, for preliminary medical treatment. He told me that he considered it of the greatest importance to gauge the degree and stage of the thyroid intoxication, and to avoid operation while it is at its height. From the examination of some hundreds of patients he has been able to establish the fact that in the great majority of cases the disease runs a fairly definite course as regards the severity of the intoxication. "If the average course of the disease be represented by a curve, the greatest height of the intoxication is found to be reached during the latter half of the first year, and then rapidly drops to the twelfth month. In many instances it reaches the normal base line during the next six months; more often it fluctuates with periods of exacerbation for the next two to four years. Secondary symptoms and exophthalmos may remain, but the active course rarely continues over four years without distinct intermissions. The ascent may be gradual, sudden, or irregularly marked by many secondary curves.[5]

Dr. Plummer tells me that he considers the operation is done with the greatest safety either quite early in the disease or much later, when the period of greatest intoxication has passed by. He also informs me that the average duration of the disease at the time of operation at Rochester is about two years. There are, of course, some cases upon whom no operation of any kind is performed. In determining the degree of intoxication Plummer and Mayo attach much importance to the amount of mental excitability and muscular weakness which are present; the latter is often very marked in the quadriceps, and is easily tested by asking the patient to step up on to a low stool. Dilatation of the heart exceeding one inch they regard as a serious condition, while that extending to an inch and a half may be expected to give a percentage of unavoidable mortality for the radical operator of partial thyroidectomy. Dr. Plummer is, I believe, about to publish more fully his extensive and valuable observation on these points.

The dangerous cases, in which operation in my opinion should *not* be undertaken, are those acute ones in which there is much thyroid intoxication as shown by great excitability, mania, or muscular weakness, or who are suffering from any acute inflammatory infection such as bronchitis; secondly, those in which marked degenerative changes have taken place in the viscera, especially the heart and kidneys. Albuminuria, glycosuria, diarrhœa, a constantly irregular pulse, and low blood pressure are all conditions which should lead the surgeon at least to postpone operation; and if these conditions cannot be remedied by medical treatment, operation should not be performed at all. Of all chronic complications, marked dilatation of the heart is perhaps the most common and the most serious.

It is in the severe type of case, in which thyroidectomy is likely to be very dangerous, that ligation of arteries may sometimes be performed with advantage. Ligation of the superior thyroid artery is chiefly useful as a means of ascertaining the susceptibility of the patient to operation rather than as a means of cure. In any case in which it is doubtful whether the patient is fit to undergo the larger operation of partial thyroidectomy, it is well to begin with a preliminary ligation of one superior thyroid. If the reaction from this is slight, partial thyroidectomy can probably be carried out with safety a week or two later on the other side. If the reaction be severe, the best plan is to tie the opposite thyroid before resorting to thyroidectomy, or possibly to be content with ligation alone. Dr. Charles Mayo, who has had a very large experience of ligation, considers that the reaction after ligation of one superior thyroid artery is about three-fourths as severe as bilateral ligation, but that the missing fourth is an element of safety. The subsequent ligation of the opposite artery a week or two later is a much less severe proceeding.

I cannot conclude this part of my subject without referring to the brilliant work of my friend, Dr. T. P. Dunhill, of Melbourne, who has had a very large operative experience of exophthalmic goitre, and who is one of the most enthusiastic advocates for operation in this disease. Dr. Dunhill is perhaps more willing to operate on really bad cases of the disease than any surgeon I know, and his results are certainly admirable. For details I must refer to his introductory address, which opened a valuable debate on the treatment of Graves's disease at the Royal Society of Medicine just a year ago.[6] Both the address itself and the long debate which followed, in which most of the principal authorities on the subject in this country, surgeons, physicians and anæsthetists, took part, are well worthy of careful study. I may add that I have quite recently received a letter in which he states, in answer to a question of mine, that he has in no way altered his views, and that he continues to operate on large numbers of exophthalmic cases.

THE ADVANTAGES OF OPERATION.

We turn now to the advantages of operation. That patients do derive great benefit from operation in nearly all cases there can be little or no doubt. The testimony of all surgeons who have had much to do with exophthalmic goitre is overwhelming on this point. Of my own operation cases, with the exception of the two that died, there is not one that has not benefited by the operation, although in one or two the benefit has not been great, and in one case at least there has been a slight relapse.

Patients undoubtedly do improve in a manner that is not seen, as far as I know, after any other method of treatment. Even after a single ligation they nearly always say they feel better. After double ligation the benefit is usually still greater. A lady whom I saw at Rochester several weeks after Dr. Charles Mayo had tied both superior thyroids for severe and pronounced exophthalmic goitre said to me: "When I came here four months ago I was so wretched and miserable that I did not care whether I lived or died; now I feel well and happy"—and certainly she looked it.

A case of my own is that of a lady, aged 39, who had had all the classical symptoms of Graves's disease for nearly two years when I first saw her. After two months' preliminary treatment I removed the right lobe in May of last year. In October she wrote to me as follows:—

> I feel an absolutely different woman since you operated upon me for exophthalmic goitre in May last. My general health is good, and my relations tell me that never in my life have they seen me look so well. The nervousness has quite disappeared, also the trembling, and my eyes are normal, while my colour is fresh and clear. The palpitations have quite ceased, and altogether I feel like one "risen from the dead," as it were.

Another patient, a woman, aged 34, with typical exophthalmic goitre, from whom I removed one lobe (shown to you at the last lecture), writes to me four months later:—

> I am glad to say I am feeling much better now. Previous to the operation I had suffered from great heats, palpitation of the heart, sleeplessness, and nervousness, but all these symptoms have almost disappeared. Of course, I have to be very careful, as any over-exertion causes my heart to beat rapidly. I have very good nights, and have regained all lost weight, from 8 st. 2 lb. to 9 st. 6 lb. It is splendid to feel so much better, and I hardly know how to thank you for all you have done.

I could easily multiply examples such as these. Patients in whom emaciation is a feature of the disease, as in the above case, and I need hardly say it is a common feature, often put on flesh rapidly after the operation, although there may be an initial loss of a few pounds as its immediate result.

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[5] Factors of Safety in Operating for Exophthalmic Goitre, by Charles H. Mayo, Journal of the American Medical Association, July 6th, 1912, vol. lix., pp. 26, 27.

[6] THE LANCET, Feb. 17th, (p. 422) and 24th (p. 503), and March 2nd (p. 576) and 16th (p. 724), 1912.

Perhaps the most striking examples of the benefits of operations are to be seen in the case of men who, on account of their complaint, have been quite incapacitated from work. Thus I may cite the case of a man from whom I removed the right lobe of the thyroid for typical Graves's disease in June last. For ten months before the operation he had not been able to do any work. Yet when I last saw him a few days ago he told me that he felt so much better that he was now hard at work *as a scaffolder. He still shows* symptoms of his disease, but he is at any rate now able to earn his living.

In estimating the actual amount of benefit that follows operation in any given case we must bear in mind the fact that in exophthalmic goitre the symptoms are of a particularly subjective character, and that the functional disability of the patient does not bear a constant relation to the physical signs; for example, a patient may have all the cardinal signs in such a well-marked degree that there is not the least doubt as to the diagnosis, while he may complain of nothing but occasio[illegible] do his work. Whereas [illegible] less distinct signs may [illegible] invalid. When we examine a patient a few months after operation we sometimes find that he has still some exophthalmos, tachycardia, and enlargement of the thyroid gland, and on asking the usual questions we are told that he is still subject to palpitation, and to a certain amount of breathlessness on exertion. Then, while we are preparing to write the case down a failure, we are surprised to find that, in spite of all, we are dealing with a very grateful patient, who declares that he is much better, and is able to lead a very much more active life than formerly.

I think there can be no doubt that operation does in many instances relieve the subjective distress which is so characteristic of the disease, and although such improvement, when unaccompanied by much obvious change in physical signs, is not of much value for statistics, it is certainly a practical point which ought not to be overlooked. A good instance of this is afforded by the case of a woman, aged 26, with pronounced and typical exophthalmic goitre, from whom I removed half the thyroid in July, 1909, and whom I have been seeing from time to time since that date. She still has exophthalmos, and she still has some tachycardia, but always expresses herself as being very much better for the operation. When I last saw her a week or two ago, seeing that she still had the objective signs of the disease, I asked: "In what way are you better?" And her reply was: "Well, *before the operation I was frequently laid up and away from* my work, and now I never am."

THE QUESTION OF ANÆSTHESIA.

With the much-discussed question of anæsthesia I must deal briefly. Much depends upon the anæsthetic and much upon the patient. My own feeling upon the matter is that for exophthalmic goitre chloroform is more dangerous than ether, even when administered by a highly skilled anæsthetist; ether given by a closed method is much more dangerous than ether on an open mask; while the method [illegible]

The main advantage of local analgesia is that the patient can drink freely during and immediately after the operation. This certainly diminishes the tendency to excessive post-operative tachycardia, which is one of the principal dangers. The absence of post-anæsthetic vomiting renders recurrent venous hæmorrhage less likely to occur, although if sufficient care be taken with hæmostasis the strain of retching ought not to have any bad result. The principal disadvantage is the psychic effect upon the patient if very nervous; a general anæsthetic may be less injurious than the nervous excitability caused by dread of the operation. It is important, I think, not to operate upon any one who is in a condition of great alarm. In hospital practice, where the patients can talk to one another and the effects of previous operations on others can be seen by those about to undergo a similar experience, these fears can usually be quickly allayed. I find that, as a rule, before the day arrives the patient has lost much of her dread and is eager to submit to operation. Crile's method of "stealing the gland" by administering an anæsthetic on several occasions before the real operation is undertaken, so that the patient does not know when the operation is to be performed, does not seem to me to have much in its favour, and I have never employed it.

Von Eiselsberg[7] states that at first when operating for Basedow's disease he was careful to avoid the use of general anæsthesia, but that of late he had been employing it in some cases of very nervous patients, in whom otherwise the danger of shock seemed to him to be too great. I think that most surgeons would agree that, however strongly they advocate the use of local analgesia, there are cases in which a general anæsthetic must be employed.

OPERATIONS FOR EXOPHTHALMIC GOITRE.

I come now to the various operations which may be performed for exophthalmic goitre.

Exothyropexy and Operations on the Sympathetic.

With regard to exothyropexy and operations on the sympathetic, I cannot believe that either of them is worth doing, and I need not say much about them. Operations upon the sympathetic are performed by very few surgeons. Jaboulay and Jonnesco are the two who have had most experience of this method. When at Bucharest two years ago I was informed that the latter still practised the operation, but I did not see any of his patients.

Jaboulay[8] in 1911 wrote a good account of 31 patients on whom he had operated. Three were mild cases, all the rest were of "true typical exophthalmic goitre"; none were of the so-called "basedowified" goitre, what we should call secondary Graves's disease. In 21 cases the superior cervical ganglion was removed together with part of the main [illegible]neath it; in nine cases the [illegible] usually just below the [illegible]e middle ganglion; in one case mere stretching of the sympathetic was the operation performed. Of patients operated upon before 1900, five died from septic complications (pneumonia and erysipelas) due to bad hospital conditions. Since 1900 only one patient has died, and this one had the usual hypertrophy of the thymus, to which the death is attributed. Of the 25 patients who survived the operation, 1 cannot be traced; 2 were in perfect health four and six years after operation, but have since been lost sight of; 12 were living at the time of the report; 7 after having been notably improved by the operation have since died, mostly from four to nine years afterwards, from an intercurrent disease; 3 died as the result of a further operation upon the gland itself, intended to complete the cure. *Eliminating the cases that cannot be* traced, and those that have been operated upon within two years, he says that 15 out of 21 have survived for more than four years, and of these 15 there are 9 still living 12 and 14 years after. His conclusion is that the patients can live a long time after the operation, and that this proceeding arrests or cures the diseas[illegible] cases of complete cure. [illegible] point that in no case has [illegible] ance in the eye or face as a consequence of his operative interference with the sympathetic.

These results do not seem to me to be very encouraging. I have never performed this operation myself, nor do I feel at all inclined to recommend it. The only case of the kind that has come under my own observation, although not in my own practice, was that of a young woman with well-marked signs who died within a few hours of the operation with the usual symptoms of so-called hyperthyroidism, restlessness, excessive tachycardia, and a very high temperature.

Heinlein[9] reports an interesting case on which exothyropexy was performed. The patient had exophthalmos, tremor, emaciation, and a pulse-rate of 150. The author decided to do a partial thyroidectomy. Local anæsthesia was employed, and the right upper and two lower arteries were first tied. The operation proved very difficult, and when it had lasted two hours the man's condition was such that Heinlein concluded it rapidly by leaving a portion of the gland exposed instead of removing it. The portion exposed dried up gradually, and at the end of six months a prominence of the size of half a hen's egg remained, while all the symptoms had completely vanished, the pulse-rate being 60 and the nutrition good. In spite of the success of this case the author does not recommend exothyropexy, but considers partial thyroidectomy to be the operation of choice.

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[7] Verhandlungen der Deutschen Gesellschaft für Chirurgie, 1911, Band xl., p. 53.

[8] Jaboulay and Challer. Lyon Médical, 1911, vol. cxvi., pp. 501-05.

[9] Münchener Medizinische Wochenschrift, 1909, Band lvi.

Ligation of Thyroid Arteries.

Ligation of arteries has, in my opinion, a well-established position in the surgery of exophthalmic goitre. Ligation of one superior thyroid artery has the advantage that it is a comparatively small operation, that can often be performed with more safety than a hemithyroidectomy. Even bilateral ligation of the superior thyroids is less severe than partial thyroidectomy. Ligation of the inferior thyroid is, however, a difficult and somewhat severe procedure, and should, I think, rarely be adopted. Ligation of both superior and one inferior arteries may be quite as severe as removal of half the gland. It may, perhaps, be advisable in some cases of large goitres in very thin people, since in thin subjects the mechanical difficulties of tying the inferior artery are less.

Here is a photograph of a man aged 32, one of the most advanced cases of Graves's disease I have ever had to deal with. He had well-marked exophthalmos, palpitation, rapidity of pulse, tremor, emaciation, diarrhœa, and extensive bronzing of the skin. He was so nervous and excitable that for some months he had been wholly unable to follow his occupation, that of a clerk. He told me that he was anxious to undergo any operation, however dangerous, which would afford him any prospect of relief. In July, 1901, I tied both superior and one inferior thyroid arteries, under local anæsthesia; he stood the operation well, and within a few weeks a most extraordinary improvement set in. His palpitation vanished almost entirely, his pulse-rate fell markedly, the diarrhœa disappeared, and he lost practically all his subjective symptoms. He was able after a few weeks to return to work, and although he never completely lost the exophthalmos and was liable to occasional attacks of palpitation during excitement, he was practically well and always expressed himself as most grateful for the amount of benefit he had received from the operation. When I last saw him, 14 months after the operation, he told me that he felt quite well and "was able to do his work as well as anyone else." His weight, which before operation was only 5 st. 4 lb., increased to 9 st. 7 lb. He remained at work until the day of his death some time afterwards. He died suddenly in an epileptic fit. He had been subject to epilepsy for years before the exophthalmic goitre began.

Shortly after this I did precisely the same operation on a young woman with ordinary well-marked exophthalmic goitre of about three months' duration, but she died in 36 hours with typical symptoms of hyperthyroidism. I have no doubt now that in this last case I did too much. The case was too acute for simultaneous ligation of three arteries. At the present time in such cases as the above I should proceed more slowly, tying not more than one or possibly two arteries at a time.

Simultaneous ligature of all four arteries I have never performed, and I doubt if it is a justifiable proceeding. It is quite as severe as hemithyroidectomy, and may be followed by myxœdema or tetany.

It must not be supposed that ligation of even a single superior artery is wholly free from risk. On the contrary, it has a distinct mortality. Thus, of the 17 deaths in Kocher's large series 5 occurred after ligation of arteries. It has been objected by some that, as the benefit conferred on the patient is much less than that obtained by thyroidectomy, and as the risk is appreciable, it is not worth doing. But when we compare the risks of ligation with those of thyroidectomy, it must be remembered that it is precisely in the worst cases that ligation is usually performed, cases in which the prudent surgeon would probably not think it right to do the larger operation.

As regards the operation itself, in a thin subject with a fairly large goitre—that is, one in whom the artery is large and fairly superficial—the operation presents no great difficulty. The chief trouble is from the overlying superficial veins, which sometimes are numerous and easily wounded. An oblique incision is made along one of the natural creases of the skin. The best guides to the artery are the omohyoid muscle, at the outer border of which it is usually tied, and the upper pole of the gland itself. If any difficulty is experienced in finding the latter I have found it useful to ask the patient to swallow; the upward movement of the gland will render its detection more easy. The pulsation of the artery itself is also a good guide, but care must be taken not to mistake for this the pulsation of the main carotid or one of its branches. It is best to tie the artery close to the gland, or even to include in the ligature the upper pole of the gland itself. By this means the chance of a collateral circulation being established is rendered less likely. The superior thyroid generally gives off a large branch close to the apex of the gland, and the ligature should include this branch. I think it best not to separate the artery from the vein, but to tie both in a common ligature together with the lymphatics. The wound should usually be closed with buried catgut sutures, without drainage.

Ligation of the inferior thyroid artery is a very much more difficult operation. It may be performed either through a long incision at the anterior border of the sternomastoid, in which case numerous large veins will have to be secured, or at the posterior border of that muscle. The latter method is that which I have myself adopted in the few cases in which I have performed this operation. It involves less disturbance of the gland and less trouble with the veins. But a deep and careful dissection is required, as the artery lies close to many important structures, and a good knowledge of anatomy is very necessary.

Partial Excision of Thyroid Gland.

I come now to the operation of removing part of the thyroid gland, which should be the operation of choice for exophthalmic goitre. It is important that the operation should be performed as quickly as is consistent with thorough hæmostasis. The utmost care should be taken to prevent hæmorrhage by securing at once with forceps every bleeding point. The main superior thyroid vessels should be tied as soon as possible, and then, after the other thyroid veins have been dealt with, the main inferior artery should be ligated with its veins. For exophthalmic goitre ligation of the main artery well outside the recurrent nerve is preferable to tying the branches close to the gland. Access to the artery is much facilitated by lifting the lobe up and drawing it forwards and inwards. But on account of the firmness and solidity of the gland it is often much more difficult to do this with an exophthalmic than with an ordinary goitre. With both classes of goitre, but especially with the exophthalmic variety, the difficulty is greatly increased if the isthmus is very thick, as it often is.

I should like here to emphasise once more the necessity for avoiding undue hæmorrhage. Next to asepsis, efficient hæmostasis is the most important point in the removal of exophthalmic goitre. It is loss of blood, more than anything else in my opinion, which is the cause of the post-operative mortality in these cases, in the hands of surgeons whose asepsis is beyond reproach.

It is customary to lay great stress upon the avoidance of bruising or crushing of the gland. But in spite of the opinion of Dr. Dunhill, of whom I speak with the greatest respect, I believe that this danger is greatly overrated, and is much less than that of hæmorrhage. A recent writer[10] states that Kocher cures all cases of Graves's disease by thyroidectomy with a mortality of 2½ per cent., and that his success depends on the delicacy of the operation, so that no secretion is forced into the circulation. The first part of this statement is certainly not borne out by Kocher's own publications. The second part is, I venture to think, a most dangerous doctrine. The writer makes no mention whatever of the many other precautions on which Kocher rightly lays so much stress, and if anyone should be led to operate on the assumption that the one thing essential was manipulative delicacy, he would very soon meet with disaster. Albert Kocher states quite definitely that he does not consider the attacks of acute thyroidism to be the result of pressure on the gland, since if this were the case symptoms would set in immediately after operation, whereas not seldom they do not begin until from 12 to 24 hours after operation. He mentions also the fact that massage of the gland has been used by Weir Mitchell in treatment without any bad results. With his opinion I entirely concur. I do not think that the so called attacks of acute thyroidism are to be explained solely, if at all, by mere manipulation I may here add that by far the most important point in the after treatment is the administration of large amounts of water immediately after operation, either by the mouth or by the rectum, or even subcutaneously in the form of saline solution

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[10] Practitioner, December, 1912.

Extent of Removal of Gland

The question how much gland shall be removed is difficult to answer, much depends on the skill of the operator and his familiarity with the operation For most cases it is best not to remove more than one lobe If necessary, more may be removed subsequently But if too much be removed at once [illegible] I have myself [illegible] each lobe, but [illegible] the goitre was not a large one, the total removal being only a little over 6 oz (182 grm) The patient was very greatly benefited, and may be said to be almost completely cured But I now think, nevertheless, that I did too much, and that the patient ran an unnecessary risk The only case that I have lost from removal of an exophthalmic goitre was that of a lady aged 33, who had had well marked Graves's disease for four years I kept her in bed for a fortnight, and then removed nearly all the right lobe without having done a preliminary ligation Finding that she stood this part of the operation well, I was tempted to go on to removal of half the left lobe The increased duration of the operation, with the additional hæmorrhage that was necessarily involved, proved too much for her, and she died suddenly three hours after the operation I did not at that time realise sufficiently the difference between operating upon an exophthalmic and upon an ordinary parenchymatous goitre, in the latter class of case I have done far larger bilateral operations many scores of times without the least fear or anxiety

I may here allude to two points of some practical importance, one is that the removal of even half the second lobe in any goitre operation is likely to be a more severe proceeding than complete removal of the first lobe For the simple reason that in the complete removal of a lobe the hæmorrhage can be greatly lessened by ligation of both thyroid arteries of that side In the partial removal of the [illegible] rmissible, and the cutting [illegible] tissue may lead to more [illegible] The other point is that operations upon exophthalmic goitres are undoubtedly more severe and more dangerous than operations upon ordinary goitres of the same size in patients of the same age Upon this point practically all operators of large experience in thyroid surgery are agreed

If removal of one lobe is not sufficient to cure the patient a second operation may be performed upon the remaining lobe But this second operation should, in my opinion, never be a complete removal, as this involves too much risk of myxœdema or of tetany A considerable portion of the second lobe should always be left, together with one thyroid artery supplying it One sometimes hears it said that it does not matter if you do remove the whole gland, the patient can easily be fed upon thyroid, or grafting of thyroid may be done I venture to think that this is a grave mistake I believe firmly that total removal of the thyroid gland should never be performed for any disease whatever I am not disposed to make an exception even for malignant disease, although it is possible that there may be some very exceptional cases of this kind where it is not advisable to leave even a portion of one lobe But this matter I leave for discussion in my next lecture Not long ago I was consulted by a lady who had a small bilateral fibro cystic goitre of an extremely common type which was causing her no serious symptoms whatever To my extreme surprise I learnt that she had just been advised by a London consultant, who was not an operating surgeon, to undergo complete bilateral thyroidectomy on the ground that the gland might or would become cancerous! I need hardly say that no operation was done

The dangers of total removal—tetany and myxœdema—are well known Perhaps not so well known is the fact that there are persons who cannot take thyroid extract In any case, the condition of a person taking thyroid constantly is not so good as that of a person who has a bit of normal thyroid Even a small bit of natural gland is much better than none, for it can hypertrophy and gradually take on the functions of the gland Fortunately, it is a difficult matter to remove the whole thyroid gland completely, and many persons owe their lives, or at any rate their health, to the fact that an operator desiring and intending to remove the whole gland has accidentally left behind some outlying portion of it Of this, I described and figured an excellent illustration some years ago in my book on "Diseases of the Thyroid Gland"

Just as thyroid feeding cannot invariably be depended upon to take the place of a thyroid gland that has been removed, so is thyroid grafting an unsatisfactory and unreliable means of providing a patient with a due supply of thyroid Thyroid grafting is an operation by no means to be despised or condemned I have done it several times for cretinism, putting small pieces of gland either under the breast, in the subperitoneal tissue, or in the medullary cavity of the tibia Although in every case of mine the wounds have healed aseptically, the improvement in the patients' condition has not been sufficient to enable them to discontinue permanently the taking of thyroid by the mouth Of grafting after operations for removal of the thyroid I am glad to say that I have no personal experience, as none of my patients have ever needed it It is probable that when patients have been apparently restored to health by thyroid grafting, the improvement has been due rather to the development of some small portion of gland that was accidentally left behind than to the grafting At any rate, there is at present, so far as I know, no definite proof that thyroid grafting can be relied on to take the place of normal gland At present the operation, although often worth trying, cannot be said to have advanced beyond the experimental stage, and it is dangerous to rely upon its supposed efficacy For a full discussion of the whole subject of thyroid grafting, with many references to other papers, I must refer you to an interesting and valuable paper by Groves and Joll [11]

The Position as to Operation in Graves's Disease

In conclusion, Sir, I should like to express the opinion that exophthalmic goitre is a disease of which the treatment, whenever possible, should be carried out jointly by the physician and surgeon I venture to ask whether the time has not arrived when physicians should recognise that they can do little or nothing for its actual cure, but that they can do much to get the patients into a proper condition for operation On the other hand, the surgeon should realise the value of medical treatment as a preliminary to surgical interference, and should remember that there are stages of the disease during which the patient should be entirely in the physician's hands It is common to hear of patients, who might be much benefited by operation, being kept indefinitely under medical treatment in out-patient departments, or intermittently in the medical wards, before a surgeon is even asked to see them, and when he is called in it is often to some desperately bad case on which he is expected to operate immediately as a last resort

[illegible]

most other kinds of goitre, but that the dangers may, however, be greatly reduced by careful attention to details, especially in the selection of cases for operation, and in the choice of the time at which the operation should be performed, in the preliminary treatment of the patient, in the methods of operating and in the after treatment

That much benefit nearly always follows operation is undoubted, and that cure does sometimes follow as a direct result of the operation, especially in early and slight cases, there can be equally little doubt Even in really bad cases, in which operation must involve serious risk, so much improvement often results that operation should not be too lightly put aside

There is still much room for difference of opinion on many aspects of the question I have tried to put before you as fairly as I could both my own views and the views of those of larger experience than myself

In my next lecture I shall deal with varieties of thyroid disease other than Graves's disease I hope to be able to show you a number of patients upon whom I have operated both for this disease and for other kinds of thyroid tumour

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[11] Brit Med Jour, December 1910

PRINCIPLES OF PERCUSSION AND AUSCULTATION.[1]

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THOSE who have taught physical diagnosis have realised, I am sure, the difficulty of giving precise definitions of the conceptions of the percussion sound and the auscultatory symptoms. The usual clinical terms "clear," "flat," "dead," "full" are metaphorical and not coincident with the conceptions of scientific physics. They therefore give rise to much confusion. We shall overcome these difficulties only if we go down to the very principles of physics and use the rules and terms of science instead of the ambiguous expressions of clinical practice. The works of Helmholtz, of Tyndall, and of Geigel[2] will give the best advice to all physicians who wish to deal more exactly with these problems of acoustics.

The varieties of sound are comprised in the following terms: 1. *Loud* and *soft* express the intensity or amplitude of the waves. 2. *High* and *low* or the pitch gives the number of waves in the second, and therefore the length of the single vibration. 3. *Long* and *short* mean the duration of the total sound. I propose not to use the term "timbre" or "colour" of sound, because this only depends on the combination of the fundamental tone with different overtones.

Difficulties will arise as soon as we proceed to analyse the sounds of percussion and auscultation, because the physical methods of analysing sounds have not been sufficiently worked out for our purpose. We were, therefore, obliged to find our own way. For the estimation of the intensity we have used a very thin rubber membrane armed with a minute mirror, which reflected a light ray on to a photographic film, or the microphone in combination with Einthoven's galvanometer.[3] The same instruments give evidence of the total duration of the percussion sound. A simpler method of estimation is based upon the physical law, that the intensity of sound diminishes with the square of the distance. This law is employed in otology for measuring the acuity of hearing. We can apply the converse principle and estimate the intensity of sound by the distance over which it is still perceptible. A flat percussion sound will be distinguished only in the immediate neighbourhood of the patient; a loud sound in the most remote seats of a large amphitheatre.

We conclude from our estimations that the percussion sound of the normal lung and other air-containing organs shows, not only a far greater intensity, but also a longer duration than the flat sound of a solid organ. The tracings with the sensitive membrane or the Einthoven galvanometer show for the full sound of the lung an amplitude three or four times as great and a duration twice (0·42 to 0·28 second) as long as the flat sound. It is obvious that such a comparison is only permissible if the same experimental conditions are kept—i.e., if the percussion stroke is of the same kind and intensity. But the conception of "dulness" ("matité" of Laënnec) is not fully identical with small amplitude and short duration. We realise that the problem is more complicated as soon as we proceed to consider the pitch.

In the first place we found great difficulty in analysing the pitch. The microphone proved to be unfit, because it was accompanied by too many errors and because it did not respond with the lower tones. The direct registration by sensitive membranes (rubber membranes or soap bubbles) and transmissions of its vibrations by a ray of light to a photographic film give beautiful drawings,[4] but it is often difficult to determine which part of the waves is dependent upon the fundamental tone of the membrane and which is the true expression of the given percussion sound. This method is not yet worked out perfectly, and it gives good results only if the sound is loud enough. We got the best results by the use of resonators. The spherical resonators of Helmholtz did not respond so clearly as those of conical form, to which Professor Röntgen has drawn my attention. The conical tubes were manufactured from tinplate. The length of the cone is four or five times as great as the diameter of the base. The apex of the cone shows a lumen of 2 millimetres and is applied directly to one ear, or by the tube of a binauricular stethoscope to both ears. The keynote of each cone is identical with that of a cylinder open at both ends—i.e., the conical resonator responds to a tone of double its wave length. We use a long series of such cones, the length of which varies from 10 centimetres to 3 metres. The application of such a long series of single resonators offers some inconvenience, and we therefore proceeded to use resonators of cylindrical shape. Two or more cylindrical tubes were fitted into one another, like a telescope; one end of the inner tube is closed and perforated by a small opening of 2 millimetres upon which the tube of a binauricular stethoscope can be fitted. The length, and therefore the keynote, of these cylindrical resonators can be changed easily, and their use has great advantages. A cylinder closed at one end responds to a tone of four time its wavelength. If the tube is applied with its open end to the chest wall for the purpose of auscultation, it follows the laws of cylinders closed at both ends and responds to a tone of twice its wave length—i.e., to the higher octave. The diameter of the tubes is of little importance. We use cylinders with a diameter of 3 or 5 centimetres. An experienced ear is easily able to distinguish with what length of the tube resonance takes place. The length of the tube expressed in centimetres permits one to read directly the pitch of the tone.

It is necessary to remember that the low fundamental tone of a resonator never can be evoked by a higher tone, but that a high tone is able to evoke the high partial tone of a big resonator. With the help of the resonator tubes we have been able to ascertain that the percussion sound of the normal lung is characterised by a very low note of the contra octave (especially A) or the upper half of the subcontra octave. Very often we found the best resonance with a length of the tube of 1·6 to 1·8 metres—that is, A_1 to G_1.

The foam-like substance of the normal lung answers with very low and slow vibrations to the stroke of the percussor, and we conclude that the fundamental tone of the normal lung is very low. But this very low sound is only heard if the lung is fully expanded with air and if the part set into vibration is great enough. The thinner edges of the base of the lung near the diaphragm or covering the heart give a higher pitch. The apex of the lung gives, too, a distinctly higher pitch than the lower parts, especially on the back below the scapula. The lung of a child gives a higher note than that of an adult; the emphysematous lung and the pneumothorax the lowest.

You may convince yourself of the resonant quality of the lungs by a very simple experiment. Put your hands on both sides of your own chest and sing the scale. You will feel no vibrations as long as you sing the upper parts of the scale. From a certain point of the scale vibrations of the chest wall become perceptible, and are strongest with the lower notes of the bass voice. My assistant, Dr. Edens, was able to record these vibrations of the chest wall with Otto Franks's sphygmograph, and has shown that the figure of thoracic vibrations exactly corresponds with the oscillations of the sungen tone. We may conclude that the lung is set into vibration like a Helmholtz resonator as soon as its fundamental tone is emitted. We understand why pectoral fremitus is commonly not distinctly perceptible on the female chest wall. The female lung has nearly the same low fundamental tone as the male, but the female voice is not suited to emit the low keynotes which only find resonance in the lung tissue.

The tympanitic percussion sound of the air-containing intestines is of distinctly higher pitch than that of the lungs; it responds to an open resonator of from 30 to 50 centimetres length—i.e., from D to E of the scale. The tympanitic sound is characterised by a simpler constitution.

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[1] This paper reproduces in substance a clinical lecture delivered at Guy's Hospital on June 29th, 1911, but only now received for publication in England.

[2] John Tyndall: Sound, German edition by Helmholtz Richard Geigel. Leitfaden der diagnostischen Akustik, Stuttgart, Verlag von F. Enke, 1908. H. von Helmholtz: Die Lehre von den Tonempfindungen, Braunschweig, 1896.

[3] Th. Selling. Untersuchungen uber den Perkussionsschall, Deutsches Archiv fur Klinische Medizin, Band xc, p 163, 1907. F. Muller: Der Ausbau der Klinischen Untersuchungsmethoden, Zeitschrift fur Ærztliche Fortbildung, 3. Jahrgang, 1906 Idem. Zur Physikalischen Diagnostik, Verhandlungen des Deutschen Kongresses fur Innere Medizin, Wiesbaden, *1911*.

[4] May und Lindemann · Graphische Studien uber den Percussionsschall, Deutsches Archiv fur Klinische Medizin, Band xciii., p. 100.

May and Lindemann have been able to trace its vibration by means of a soap membrane, and found that it nearly corresponded to a single tone, while the percussion sound of the normal lung gives a very complicated diagram made up of various higher, and especially lower, tones.

The dulness of the infiltrated lung (pneumonia) or pleuritic effusions shows not only a very small amplitude of the vibrations but also a deficiency of the lower tones. It is not only soft but higher too. And because the lower tones always have a longer duration than the higher ones, the percussion sound in case of dulness is quicker extinguished (damped) and has a shorter total duration than the sound of the normal lung.

Though the total duration of the percussion sound is always rather short, amounting only to half a second or less, the ears of many physicians are especially adapted to perceive the duration, and they therefore use the expression "short" instead of "dull," not without good reason. In beginning tuberculosis of the lung the percussion sound of the affected apex at first shows only the deficiency of the lower tones, and therefore appears *in toto* higher and shorter. A difference of amplitude (loudness) is scarcely or not at all perceptible in early cases; a distinctly smaller amplitude—i.e., real dulness or flatness—is a sign of more intense infiltration.

The physical analysis of the auscultatory phenomena presented greater difficulties than that of the percussion sound. The intensity of the respiratory sounds is so very small that our apparatus up to the present time proved unable to record its vibrations. Only the most sensitive of all acoustic apparatus, the human ear, is fit to perceive it fully. We first tried to use microphones and telephones of different types. But they did not respond to the sound of normal vesicular breathing, but only to that of bronchial and tracheal breathing. An exact exploration by the scale of tuning forks gave evidence that the telephone and microphone do not respond to low tones as well as to high ones, or to the lower tones not at all if they are of low amplitude. This experiment led to the conclusion that bronchial breathing was made up of high tones only, and that in vesicular breathing high tones are not present, but only low ones. An exploration by resonating tubes of different length proved that this assumption was right. Normal vesicular breathing gives only resonance with tubes of 120 to 300 centimetres length (C to A_1), bronchial breathing with tubes of 26 to 60 centimetres (F″ to D′). Consonating râles in infiltrated lung resonate on an average in the same part of the scale as bronchial breathing, partly with higher tones. The metallic sound in percussion as well as in auscultation (amphoric breathing, metallic resonant râles) are characterised by very high overtones perhaps of 1000 to 5000 waves in the second.

We must make the conception of bronchial breathing as clear as possible. Real bronchial breathing is heard over complete pneumonic infiltrations or over totally compressed atelectatic lungs—i.e., on the upper parts of pleuritic effusions. This characteristic breathing sound consists of only high tones, and resembles exactly the sharp *ch* sound of the German language. The so-called bronchial breathing over tuberculous cavities commonly shows a lower pitch. Tracheal breathing is not at all coincident with bronchial breathing, as is often said. The breath sound over the trachea shows especially the high pitch of a tube of the same diameter, but this sound is mixed with the low sound of vesicular breathing. *The bronchi which ramify into the interior of the lungs conduct the vesicular breathing sound to the trachea.* We can convince ourselves very easily of this fact if we practise the auscultation of the trachea with the help of a long rubber tube—viz., a gas tube averaging 2 metres in length. The long air tube between the trachea and the ear deadens or damps the high tones of the tracheal breathing nearly to complete extinction, and the low tones of the pre-existent vesicular breathing alone remain perceptible. This experiment proves that the interposition of an air space damps the higher waves more than the low ones, and a solid bar of wood or iron conducts the higher sound waves far better than an air tube of the same length.

The spongy substance of the normal lung seems to have a far more damping effect upon high sound, than air alone; it may be because the manifold reiteration of air bubbles and the walls of the lung vesicles give rise to reflection and extinction of the waves. A comparatively small layer of lung tissue deadens and extinguishes the high pitch of the underlying tracheal and bronchial tubes almost completely, and only in the immediate neighbourhood of the trachea and the principal bronchi are we able to hear a trace of its characteristic high breathing sound. In the lower parts of the lung no trace at all of the bronchial breathing sound is heard. The normal lung extinguishes, too, the sound of the heart over a short distance. Only if the lung is consolidated by inflammation, by neoformation of connective tissue, or by compression does its conducting power increase and equal the conducting power of solid masses, and under these conditions only are we able to perceive on the chest wall the high whistling sounds which originate in the bronchi. Characteristic bronchial breathing seems to originate only in the greater bronchi of the first, second, and third order. The smaller bronchi seem from our experiments to be too narrow to give origin to perceptible sounds.

It is not easy to give a convincing explanation of the origin of the normal vesicular breathing sound. It is likely that the stretching and successive extension of the lung tissue give origin to vibration of the lung substance as a whole and therefore to the low characteristic sound. A comparison between the size of the lung in the living body and the contracted organ after it has been removed at a necropsy shows clearly that the lung must be very greatly expanded in the normal thoracic cavity, and this expansion increases with every inspiration.

I have tried to give a picture of the results of our experiments in the following scale, and we may conclude from the scale that the normal lung responds on an average with the same low sound, if its fundamental tone is evoked by percussion or by the stretching of inspiration or by the voice. The fundamental tones of the cavities of the abdomen have a higher rate of vibration; the fundamental tone of the bronchi (bronchial breathing, consonant râles) takes its place between C′ and C″; and the metallic sound is characterised [illegible] The normal heart sounds and the [illegible] and therefore it is sometimes very difficult to distinguish systolic vesicular breathing from valvular murmurs.

Keynote.		Vibrations per second.	Wave length.	Longitude of resonating tube.		
				Open.	Closed.	
			cm.	cm.	cm.	
	c^4	2048	16	3	6	
	c^3	1024	33	8	16	
	c^2	512	66	17	33	Bronchial breathing. Bronchophony.
Tympanitic percussion sound.	c^1	256	133	34	67	
	c	128	266	67	133	
Normal percussion sound of the lung.	B	120	281	70	141	
	A	108	216	79	158	
	G	95	354	89	177	Vesicular breathing.
	F	85	397	99	193	
	E	80	426	100	210	
	D	72	470	120	230	
	C	64	530	130	260	
	C_1	32	1060	260	530	
	C_2	16	2120	500	1000	

Some physicians have tried to exaggerate the technical refinement of percussion and auscultation to artistic virtuosity, and to draw the keenest diagnostic conclusions from its application. I have tried to show that these methods of examination are not so much the object of artistic skill, but of scientific understanding, and that we first need a solid scientific foundation and criticism. A comparison between the [illegible] and auscultation with the results of [illegible] the necropsy finding often [illegible] very moderate in diagnostic conclusions from the physical examination, and that it does not grant so conclusive proof concerning the conditions of the inner organs as many of us have imagined.

THE BLOOD IN CANCER WITH BONE METASTASES.

By GORDON R. WARD, M.B., B.S.Lond., M.R.C.S. Eng.

In The Lancet of Feb. 8th there is an article on the above subject by Dr. A. W. Harrington and Dr. A. M. Kennedy. *In the course of this they refer to a somewhat similar case mentioned by myself in a communication to The Lancet,*[1] *which I should probably not have written* except under the stimulus of a previous case reported by Dr. Harrington and Professor J. H. Teacher. Like causes produce like effects, which is the reason for the following account of two, and perhaps three, more cases of the same nature which have since come under my observation. Two were under the care of the late Dr. Murrell in the Westminster Hospital and one under the care of Dr. Harry Campbell in the West End Hospital, to whom I am indebted for permission to refer to them. I am, unfortunately, unable to give nearly so detailed or valuable an account of these cases as Dr. Harrington has given of his, but the interest of the subject and the rather small number of cases on record appear to warrant mention of others. The cases are briefly as follows.

Case 1.—The patient was a woman aged 41 when first under observation about two years before her death. She was then suffering from "sciatica," and her previous history showed that she had had her breast amputated for malignant disease. The pain was found to be due to a pelvic tumour, and her subsequent history was one of slowly increasing tumour formation in connexion with the bones. For a while most trouble was caused by a tumour following fracture of the hip—this occurred about the time of the second blood examination. By the time of the third examination the lower end of the same femur was affected. At the time of the last count there were in addition pains in the shoulder and spine and girdle pains, arising no doubt from growth in the latter situation. These growths were verified by X ra For a while she had really very good health, but latter morphia in increasing doses was necessary. She was taki 5 grains daily at the time of the last count. Four examin tions of the blood were made in this case at intervals duri a period of two years. It will be noted that at no time w there a grade of anæmia at all comparable to that seen Addisonian anæmia, but that at the end signs of "bo marrow stimulation" began to appear. One may perha note here that the cases of Harrington and the last case he mentioned prove conclusively that the term "pernicio anæmia" often so confidently used after a blood examin tion corresponds to neither a pathological nor a clinic entity, and should be discarded as soon as possible. T results of the blood examinations are given in tabular for below with those of other cases.

Case 2—The patient, a woman, aged 44, was sufferi from marked curvature of the spine, shown by the X rays be due to a growth, and following amputation of the brea for epithelioma. Morphia was being given to the extent 24 grains daily for pain, but the progress of the diseas was comparatively slow. Only one blood examination w made.

Table showing the Results of Blood Examinations in Cases of Cancer with Bone Metastases.

—	Case 1.				Case 2.	Case 3.	Case 4.
Age	41.				44.	—	53.
Sex	Female.				Female.	Female.	Male.
Day of observation	1.	58.	300.	660.	1.	1.	1.
Red blood corpuscles	4,725,000.	4,350,000.	5,290,000.	4,780,000.	4,920,000.	4,760,000.	1,250,000.
Nucleated red cells	None.	None.	None.	23.	90.	486.	645.
Normoblasts	None.	None.	None.	—	94%	78%	89%
Megaloblasts	None.	None.	None.	—	6%	22%	11%
Megalocytes	None.	None.	Few.	Many.	Many.	—	17% [9-13μ]
Microcytes	None.	None.	Fair number.	Many.	Many.	—	7% [5-6μ]
Poikilocytes	None.	None.	Few.	Many.	Fair number.	Not marked.	Frequent.
Polychromasia...	None.	None.	Frequent.	Very frequent.	Frequent.	Fair number.	Very marked
Stippling	Slight.	Slight.	Very frequent.	Not noted.	Present.	A few.	Not noted.
Average size	Normal.	Normal.	? Small.	—	About normal.	Normal.	7·79μ.
Hæmoglobin	115%	82%	65%	66%	50%	65%	32%
Colour index	1·2.	0·942.	0 619.	0 694.	0·510.	0·68.	1·28.
White blood corpuscles... ...	3,700.	7,500.	6,700.	5,800.	9,000.	10,800.	15,000.
Platelets	—	—	Increased.	Normal.	Normal or +.	—	Normal.
Coagulation	—	—	—	—	—	—	—
Viscosity	Normal.	Not increased.	Normal.	Diminished.	Diminished.	—	—
Iodophilia	—	—	Slight.	—	—	—	Marked.
Polymorphs	51·0	53·2	50 0	49 0	68·9	50·7	65·1
Eosinophils	0·4	2·4	4·2	0·8	0 8	0·6	1·5
Mast cells	1·8	1·2	0 6	—	0·5	—	0·2
Transitionals	2·2	0 8	7 6	7·6	2·9	10·2	8·1
Small mononuclears	42·2	41·2	34·0	41·0	23·3	31·2	21·5
Large mononuclears	2 4	1·2	3·2	0·8	2·7	4·8	2·4
Myelocytes	—	—	0·4	0·8	0·9	2·4	1·2
Anisocytosis	—	Increased.	Increased.	—	Much increased	—	5μ-13μ
Spectrum	—	—	Oxy-hæmoglobin.	—	Oxy-hæmoglobin.	—	—

Case 3.—This is the case previously mentioned by me i The Lancet, and was that of a woman who had rapid r currence after amputation of the breast, and when examine had a large mass attached to the sternum, and no dou involving it, as well as two smaller nodules growing from th ribs. These masses did not involve the skin in any wa and those in connexion with the ribs were on the side of th body opposite to that from which the breast had bee removed. In none of the three cases at present mentione was there severe anæmia.

Case 4.—The patient was a man, aged 53. He was on under observation a few hours, being admitted in a dyin condition. Post mortem he was found to have a large carc noma of the stomach involving the whole circumference the stomach, the pancreas, omentum. and glands about th cœliac axis. There were no metastases in the liver, b some cirrhosis. There was advanced atheroma of the aor and a small aneurysm, as also thickening of the mitral an aortic valves. There was some perisplenitis, a few pleural adhesions, hæmorrhagic spots on the knees, and altered blood in the intestines. It would appear probable that the cause of death was the hæmorrhage into the bowel which must have taken place. The growth into the stomach was ulcerated, but there was no direct evidence that the blood, which was not in large amount, came from there. The bone marrow was examined in smears, but no cancer cells were found. There were a few white areas in the marrow seen with the naked eye, but these were due to localised leucoblastic reaction. Only the marrow of the sternum was examined, a small piece being trephined for the purpose.

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[1] The Lancet, June 18th, 1910, p. 1688.

Sketch of small "giant cells" from the blood in Case 4.

There is thus no direct evidence of bone metastases in this case. The evidence for their existence is the difficulty of explaining the blood picture otherwise. It may well be argued that this evidence is very slight; that is admitted, but however that may be, the resemblance to other cases makes this one worthy of record. There was one rather remarkable point about this case, and that was the presence in the blood of many cells between 20μ and 30μ in diameter and apparently identical with the smaller giant cells seen in the marrow films after death. Except for the few megaloblasts and the very large number of normoblasts, the marrow was very like that of Addisonian anæmia. The one blood examination is subjoined.

In the first three cases there was obvious involvement of the marrow in metastases from primary cancerous growths. In all of these the blood picture was distinctly abnormal and similar in type, although in the first case the more marked abnormalities were of late occurrence only. The last case resembles very closely the case of Harrington and Kennedy, but there were no metastases in the small area of marrow examined. Until more cases have been collected useful comment is almost impossible, and these cases are therefore left without it. They may be of interest to those who, like myself, are keeping an eye on the literature of the subject and endeavouring to find fresh cases.

West Kensington

FATAL HÆMATEMESIS IN A CASE OF HEPATIC SYPHILIS.

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THE patient, a young man, aged 29, a labourer, quite suddenly while at work vomited a large quantity of blood. He was taken to the central receiving house of the Manchester Royal Infirmary, and while he was there he again vomited blood He was sent to the infirmary at once, and when he arrived there he was found to have had another and very severe hæmatemesis in the ambulance. He was in a state of extreme collapse when he was seen at the infirmary—blanched, sweating, and pulseless, with shallow sighing respirations and a subnormal temperature. He himself was unable to give any account of his illness, but his mother, who was with him, stated that he had been under treatment at the Royal Infirmary some two years previously for vomiting of blood. She also said that there had been no history of any digestive disturbance at all, at that time or since. She was very emphatic on this point, as stress had been *laid on this absence of gastro-intestinal* disorder at the time of his first bleeding. From her account he had lived an exceptionally steady healthy life, and had never had any illnesses at all with the exception of these attacks of hæmatemesis.

The patient continued to bring up blood in the accident room, and was sent up to the ward at once, any examination being out of the question. He was transfused as soon as he reached the ward, and revived sufficiently to enable the pulsations in the radial artery to be felt. This improvement was immediately followed by a severe attack of bleeding, necessitating further transfusion. He then definitely improved, and complained of severe epigastric pain, more or less diffused over the whole of this region. He was given some morphia and went to sleep. He remained in this condition for some eight hours, when he suddenly became restless, and the shallow respirations returned. The pulse at the wrist failed almost immediately, and the patient died a few minutes after the onset of these symptoms. There was no appearance of any blood externally, and it was supposed that he had had a severe internal bleeding.

A post-mortem examination was performed on the day after death by Dr. W. B. Anderton.

Necropsy—The body was that of a muscular, well-developed young man, the skin and mucous membranes showing marked pallor. Fat was present in the subcutaneous tissues in fair amount There was no

d and weighed
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There was no
ventricle were
ry valves were

The right and left pleuræ were normal. The right lung weighed 21¼ oz., collapsed well, and showed moderate pigmentation. It was spongy and crepitant throughout, moderately congested, and exuded a small quantity of frothy serous fluid on compression The left lung weighed 17 oz., and presented the same appearances. The air passages were normal.

Alimentary canal. There were no signs of varices or ulceration in the walls of these viscera. A fairly large amount of blood occupied the *lumen of the large intestine and of the lower half of the small intestine.* There was no undue distension of the bowels and no sign of blood in the stomach contents. The pancreas was normal The omentum showed the presence of fat in normal quantity. The peritoneum was dry but otherwise normal.

were normal.

substance of the liver up into large areas of liver tissue of a homogeneous. pale brownish-yellow colour. The anterior part of this lobe was, however, of a still paler colour, presenting a fine mottling on section

to be fairly normal. There was no
h thickening and opacity of the
arable adhesions to the diaphragm.
as finely granular, especially in the
right lobe.

of hepatic syphilis, where the disease resembles ordinary cirrhosis of the liver. The symptoms are usually those of pain in the right hypochondrium, with more or less gastric disturbances, occasional hæmatemesis, and ascites. Jaundice is rare in these cases of hepatic cirrhosis, and according to Hale White so also is ascites. On examination of the abdomen the liver and spleen are found to be enlarged and firm. Pain generally is a prominent symptom, owing to the *perihepatitis and perisplenitis,* and although in the case recorded above there appears to have been a remarkable absence of this symptom, yet from the appearance post mortem of the liver and spleen, which were unduly adherent to the diaphragm, some pain almost certainly must have been present at one time or another.

The diagnosis of these cases rests on the preponderance of syphilis over alcohol in the history, and the relief of symptoms by antisyphilitic treatment. Rolleston has pointed out that the *routine treatment of ordinary alcoholic cirrhosis* consists of potassium iodide, and that cases recorded of cure in this disease are, in all probability, cases of syphilis of the liver.

Two further points of interest in the above case are, Sanatorium draws its patients from all parts of the United Kingdom, and it is only possible to keep in touch with them by means of the post. An annual census is taken, but, with every possible care, the annual returns are incomplete. Municipal dispensaries, which supply the needs of a definite area, should experience considerably less difficulty in tracing the after-histories of their patients.

Immediate results of treatment.—I should perhaps refer to immediate results. As evidence of the usefulness of any method of treatment, records of the immediate benefit received by consumptives, given in terms of "Improved," "Much improved," &c., are not of any great value. In practice, the presence or absence of tubercle bacilli and the amount of exercise a patient can take are the most useful points on which to have information. In sanatoriums it is but rarely that a patient, even if far advanced, fails to improve; indeed, a method of treatment which fails to benefit, even if only temporarily, the very large majority of cases treated by it needs no further investigation. Thus it is that statistics of immediate results have but small significance compared with similar records of ultimate results.

Records of the King Edward VII. Sanatorium.

The data reviewed in this paper consist of the records of 1082 patients who were discharged during the period July 1st, 1907, to July 1st, 1911. (I have omitted the year 1906-07, as during a part of this, the first, year the work of the Sanatorium was not completely organised.) The after-histories of these 1082 patients, then, cover a period ranging from a maximum of 5 years and 4 months to a minimum of 16 months subsequent to their discharge from the Sanatorium—a long enough period to give the returns a distinct value.

Diagnosis.—These 1082 patients were sent by medical practitioners as definite cases of pulmonary tuberculosis. The diagnosis was not confirmed by ourselves in 52 cases, or 4·8 per cent. of the total admissions; in fact, to be more explicit, we definitely excluded pulmonary tuberculosis in 52 cases. These cases are, of course, excluded from our annual returns. The after-histories of these 52 patients favour the correctness of our opinion. Not one of them as yet has shown any sign or symptom of pulmonary tuberculosis. There have been three deaths—from malignant disease of mediastinum, cancer of larynx, and appendicitis respectively. That nearly 5 per cent. of patients sent in as pulmonary tuberculosis were not suffering from the disease is evidence of the difficulty of diagnosis. It is proof that the practitioner sometimes errs on the side of safety, and proof also that those are justified, who are sceptical of a positive diagnosis on paper, in the absence of tubercle bacilli. It would be interesting to know the experience of dispensaries on this point.

The next feature of interest concerning diagnosis is, that of the 1030 cases in which the diagnosis was confirmed by ourselves we found the tubercle bacillus in 82 4 per cent., leaving 17·5 per cent. of cases in whom the positive diagnosis was not thus confirmed. Compared with dispensary work, I imagine the figure of 82·4 per cent. of cases with tubercle bacilli is a high one—e.g., in THE LANCET of Oct. 5th, 1912, Dr. James Fairley states that of 244 cases of pulmonary tuberculosis at that date attending the dispensary at Portsmouth, tubercle bacilli had been found in 39·4 per cent. only. I should add that the sputum examinations at the Sanatorium are made with great care.

Our data, then, consist of 1030 cases diagnosed as pulmonary tuberculosis, of which 82·4 per cent. had tubercle bacilli in the sputum and 17·5 per cent. had no tubercle bacilli so far as we could determine. Of this number, 110 have been lost sight of (a good many of these have been traced up to last year), and the remaining 920 have been traced up to the present date. To simplify matters, I shall not take into account these 110 patients who have been lost sight of, but deal only with the 920 whose after-histories are complete. This total of 920 patients is divided into two main classes—(1) those in whom tubercle bacilli were found, 764 in number; and (2) those in whom tubercle bacilli were not found, 156 in number

Considering first the 764 cases in whom tubercle bacilli were found: Of this number, 57·1 per cent. are known to be well or alive, and 42·8 per cent. are known to be dead. If we divide these 764 cases into the customary three groups, I., Early, II., Moderately advanced, III., Advanced, the following is the result. Of 183 cases in Group I., 153 (83·6 per cent.) are well or alive; 30 (16·3 per cent.) are dead. Of 357 cases in Group II., 220 (61·6 per cent.) are well or alive; 137 (38·3 per cent.) are dead. Of 224 cases in Group III., 64 (28·5 per cent.) are well or alive; 160 (71·4 per cent.) are dead.

The records of the cases in whom no tubercle bacilli were found are very different reading. Of the 156 in this group, 89·1 per cent. are well or alive, and 10·9 per cent. are dead. Two of the deaths were due to tuberculous meningitis. Of these 156 patients, 18 per cent. have, since their discharge, again shown symptoms of pulmonary tuberculosis.

To summarise these records of the 920 patients: Their condition at the present time, after a lapse of from a minimum of 1 year and 4 months to a maximum of 5 years and 4 months, since discharge, is as follows: (*a*) Those in whom no tubercle bacilli were found (156), 89·1 per cent. are well or alive, and 10·9 per cent. are dead. (*b*) Those in whom tubercle bacilli were found (764), Group I. (183), 83·6 per cent. are well or alive, and 16·3 per cent. are dead. Group II (357), 61·6 per cent. are well or alive, and 38·3 per cent are dead. Group III. (224), 28·5 per cent. are well or alive, and 71·4 per cent. are dead. Such are the bald facts. They represent the degree of success which has attended the work of the Sanatorium up to July, 1911, as judged by the only reliable test—the test of time.

To comment briefly on these data: The very favourable results obtained in the patients without tubercle bacilli is noticeable. The exact significance of the figures depends on our attitude towards patients without tubercle bacilli. Are we justified in holding that these cases have been rescued from tuberculosis by the treatment they received, or is it that a large number of them were no worse than many who receive no treatment at all and get well? That they all had evidence of pulmonary tuberculosis I had no doubt, nor had my colleagues, but I must confess to an inability to differentiate with any certainty in many instances between a recent and quiescent focus of disease and a lesion that is probably obsolete and of no clinical significance. It is only natural, perhaps, that I should lean to the view that a considerable number of these patients have been cured of incipient disease. It is clear, however, that, granted the correctness of the diagnosis, this class of case is very amenable to cure, and does not furnish at all a severe test to any therapeutic measure.

But when we come to consider the 764 patients, all of whom had tubercle bacilli, we are on surer ground. There can be no possible doubt as to the existence of the disease. The records of the 183 early cases (Group I.) with tubercle bacilli present, showing 16·3 per cent. of deaths and 83·6 per cent. well or alive, compare very favourably indeed with the records of the class just considered, in which no tubercle bacilli were ever found. The difference amounts only to some 5 per cent. more deaths and some 5 per cent. fewer "Well or alive." The physical signs and symptoms were very similar in both sets of patients. Other things being equal, then, the presence of tubercle bacilli has a somewhat unfavourable significance. None the less, the average patient with early disease and with tubercle bacilli present does well under sanatorium treatment. Many cases of this nature doubtless get well without anything more active in the way of treatment than their removal from an unfavourable environment, a method of cure which sanatoriums accomplish very effectually. There can be no doubt, too, as to the value to the patients of the practical lessons in hygienic living as taught in well-managed sanatoriums. Education and cure go hand in hand.

Group III., including 224 cases of markedly advanced disease, calls for little or no comment, except perhaps on the score that these advanced cases continue to form a considerable proportion of admissions to sanatoriums. 28·5 per cent. well or alive after some years represents a measure of success, some prolongation of life and a few apparently complete recoveries, but the mortality of 71·4 per cent. shows how little permanent benefit is to be expected from sanatoriums in this class of case.

I have left Group II. to the last, as being the most interesting. The type of case falling into this group is the one most commonly met with. No longer a case of early and very limited disease, a patient of this kind, with perhaps two or three lobes affected, usually still retains unimpaired his general condition and recuperative power. If only the onward march of the lung disease can be stayed and *arrested, complete restoration to health and capacity for* work is still to be looked for with confidence. Failing efficient arrest, the lapse into a hopeless condition is inevitable.

It is this type of pronounced, but still recoverable, disease that provides the best test for any method of treatment. The bacillus-free case and the very early case even with tubercle bacilli present may get well without any treatment, and probably often does so. Spontaneous cure, however, in a patient in whom the disease has obtained a good hold cannot be common. Sanatorium treatment alone, as shown by our *figures, does not do all we could wish for in these cases.* A mortality of 38 per cent. in so short a period as 1¼ years to 5¼ years is unpleasantly high, even if 61 per cent. well or alive after a like interval gives us some substantial measure of encouragement. To judge by other after-histories which I have followed up for ten years or more, we may expect a mortality of some 50 per cent. in this group at the end of seven years, subsequent to discharge, after which the rate of mortality should drop considerably. It is this type, the type which represents the average consumptive, that requires something more than sanatoriums can give.

The Significance of the Disappearance of Tubercle Bacilli from the Sputum.

There is nothing fresh in the observation that patients who lose their tubercle bacilli as the result of treatment have a more favourable outlook than those who, though immensely improved, do not lose them. None the less, the results of our observations on this particular point are more striking than we had expected. Of the 764 patients who on admission to the Sanatorium had tubercle bacilli in their sputum, 158 only, or 20·6 per cent., lost them before discharge. The small proportion of patients who lose their tubercle bacilli after an average of some four months' sanatorium treatment is significant. It means that but few, apart from the very early cases, can hope to leave a sanatorium apparently cured. It is to the patient's interest that he knows this. What it means to the consumptive to lose his bacilli is shown by the after-histories of the 158 patients who were fortunate enough to do so. Of 158 patients who lost their tubercle bacilli before discharge, 84·1 per cent. are well or alive and 15·8 per cent. are dead. As a comparison the following are the after-history records of the remaining 606 patients who did not lose their bacilli Of 606 patients discharged with tubercle bacilli still present, 50·1 per cent. are well or alive and 49·8 per cent. are dead. It is very encouraging also to note that the patients with well-marked disease (included in Group II.) who lose their tubercle bacilli have quite as good a prognosis as the slight cases (Group I.) who lose their bacilli. Our records in this respect are as follows. Of 79 cases in Group I. who lost their tubercle bacilli, 87·3 per cent. are well or alive, and of 64 cases in Group II. who *lost their bacilli no less than* 90·6 per cent are well or alive. Only a few cases of very advanced disease lost their tubercle bacilli, but of these, 15 in number, 40 per cent. are in fair or good health at the present time.

The disappearance of tubercle bacilli from the sputum is, then, a factor of the highest importance from the point of view of individual prognosis, and in the interest of the public health the advantage of having sputum cleared of bacilli is clearly no less great. In the treatment of pulmonary tuberculosis this should be our aim. We should be satisfied with nothing less. Further, to judge by our results, we have, in the persistence of, or in the disappearance of, tubercle bacilli, evidence of the greatest significance as to the value of any method of treatment.

In *the opinion of* some physicians, notably Löwenstein, Bandelier and Roepke, and Curschmann, the combination of sanatorium treatment with tuberculin treatment is very much more effective in clearing the sputum of tubercle bacilli than sanatorium treatment alone. This statement, coming as it does from experienced observers, carries considerable weight, and in itself calls for a thorough and systematic trial of tuberculin in sanatoriums. The confirmation of these observations is clearly a matter of the very highest importance.

Conclusions.

In making this survey I have tended perhaps somewhat to belittle the value of sanatoriums, in that I have dwelt more upon what they fail to do than on what they actually accomplish. My object has been to indicate in what *directions we may look for material improvement in the* future, as compared with the past, if tuberculin is indeed a potent additional factor for good.

What we hope to find in the near future is that a higher proportion of patients is being discharged free of tubercle bacilli, and later on that the mortality year by year is sensibly falling. Our record for "T.B. not found" cases of 89·1 per cent. well or alive after some years cannot be very much improved upon, but the record for early cases of 83·6 per cent. well or alive gives some scope for improvement. However, it is the results obtained in the treatment *of the somewhat more advanced cases, the big class classified* in Group II. by most sanatorium physicians, to which we should chiefly look for the information we are seeking as to the value of tuberculin.

There is one other point which is pertinent to my subject. Supposing that dispensaries prove the truth of the contention, that with the aid of tuberculin early cases of pulmonary tuberculosis can be as certainly benefited in their own homes or whilst at their work, as by sanatorium treatment, sanatoriums will have seriously to consider the advisability of refusing to admit the very cases which, at present, they *endeavour to admit to the exclusion of all others* This sounds very revolutionary. Still, it is logical enough, granted the truth of the premises. Sanatoriums could then concentrate upon the less favourable cases, for whom, as I have previously noted, something more is required—longer treatment certainly.

An increasing number of dispensaries will ere long be contributing their quota of evidence on this very important subject. It is earnestly to be hoped that the records of these institutions will be kept and published upon some common basis, that particular note be made as to the presence or *absence of* tubercle bacilli in the cases of pulmonary tuberculosis treated, and that every effort be made systematically to obtain after-histories. The value of tuberculin as an addition to sanatorium treatment is a question which falls to the lot of the King Edward VII. Sanatorium and similar institutions. Our answer is now in the making.

Appendix.

I add as an appendix detailed records of the patients dealt with, set out in the German method, showing all the after-history results in successive years. For the classifying of ultimate results the German method is the only one which is entirely satisfactory.

TABLE I.—*The Condition in each Successive Year Subsequent to their Discharge of 1030 Patients Diagnosed as Pulmonary Tuberculosis, of whom 849 had Tubercle Bacilli in their Sputum and 181 had not.*

Group I.

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909	1910.	1911.	1912		
1907–08	79	72	71	65	54	13	12
1908–09	72	—	68	56	50	11	11
1909–10	90	—	—	83	72	9	9
1910–11	89	—	—	—	76	4	9
Group II.							
1907–08	108	86	75	69	57	36	15
1908–09	122	—	104	76	59	45	18
1909–10	111	—	—	80	69	32	10
1910–11	115	—	—	—	72	34	9
Group III.							
1907–08	70	38	29	23	19	48	3
1908–09	84	—	41	31	20	59	5
1909–10	50	—	—	27	16	30	4
1910–11	40	—	—	—	12	23	5
All Cases Considered Together.							
1907–08	257	196	175	157	130	97	30
1908–09	278	—	213	163	129	115	34
1909–10	251	—	—	190	157	71	23
1910–11	244	—	—	—	160	61	23

TABLE II.—*The Condition in each Successive Year Subsequent to their Discharge of 181 Patients Diagnosed as Pulmonary Tuberculosis in whose Sputum Tubercle Bacilli were Never Found.*

Group I.

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909.	1910.	1911.	1912.		
1907-08	28	28	28	27	21	1	6
1908-09	30	—	29	22	21	3	6
1909-10	34	—	—	33	30	2	2
1910-11	30	—	—	—	27	1	2
Group II.							
1907-08	17	16	14	14	13	3	1
1908-09	21	—	19	15	11	5	5
1909-10	11	—	—	9	8	2	1
1910-11	6	—	—	—	5	0	1
Group III.							
1907-08	2	2	2	2	2	0	0
1908-09	0	—	0	0	0	0	0
1909-10	2	—	—	2	1	0	1
1910-11	0	—	—	—	0	0	0
All Cases Considered Together.							
1907-08	47	46	44	43	36	4	7
1908-09	51	—	48	37	32	8	11
1909-10	47	—	—	44	39	4	4
1910-11	36	—	—	—	32	1	3

TABLE III.—*The Condition in each Successive Year Subsequent to their Discharge of 849 Patients who, on Admission, had Tubercle Bacilli in their Sputum.*

Group I.

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909.	1910.	1911.	1912.		
1907-08	51	44	43	38	33	12	6
1908-09	42	—	39	34	29	8	5
1909-10	56	—	—	50	42	7	7
1910-11	59	—	—	—	49	3	7
Group II.							
1907-08	91	70	61	55	44	33	14
1908-09	101	—	85	61	48	40	13
1909-10	100	—	—	71	61	30	9
1910-11	109	—	—	—	67	34	8
Group III.							
1907-08	68	36	27	21	17	48	3
1908-09	84	—	41	31	20	59	5
1909-10	48	—	—	25	15	30	3
1910-11	40	—	—	—	12	23	5
All Cases Considered Together.							
1907-08	210	150	131	114	94	93	23
1908-09	227	—	165	126	97	107	23
1909-10	204	—	—	146	118	67	19
1910-11	208	—	—	—	128	60	20

TABLE IV.—*The Condition in each Successive Year Subsequent to their Discharge of 178 Patients Admitted with Tubercle Bacilli in their Sputum and Discharged with Sputum Free of Bacilli.*

Group I.

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909.	1910	1911.	1912.		
1907-08	20	18	17	15	14	6	0
1908-09	24	—	24	21	18	2	4
1909-10	24	—	—	22	18	2	4
1910-11	22	—	—	—	19	0	3
Group II.							
1907-08	13	12	11	10	10	2	1
1908-09	22	—	21	17	14	4	4
1909-10	18	—	—	18	17	0	1
1910-11	18	—	—	—	17	0	1
Group III.							
1907-08	12	7	5	4	4	8	0
1908-09	4	—	3	3	2	1	1
1909-10	0	—	—	0	0	0	0
1910-11	1	—	—	—	0	0	1
All Cases Considered Together.							
1907-08	45	37	33	29	28	16	1
1908-09	50	—	48	41	34	7	9
1909-10	42	—	—	40	35	2	5
1910-11	41	—	—	—	36	0	5

TABLE V.—*The Condition in each Successive Year Subsequent to their Discharge of 671 Patients Admitted with Tubercle Bacilli in their Sputum and Discharged with Tubercle Bacilli still in their Sputum.*

Group I.

Year of discharge.	Number discharged.	Number well or alive in each successive year after discharge.				Number dead in 1912.	Number lost sight of in 1912.
		1909.	1910.	1911.	1912.		
1907-08	31	26	26	23	19	6	6
1908-09	18	—	15	13	11	6	1
1909-10	32	—	—	28	24	5	3
1910-11	37	—	—	—	30	3	4
Group II.							
1907-08	78	58	50	45	34	31	13
1908-09	79	—	64	44	34	36	9
1909-10	82	—	—	53	44	30	8
1910-11	91	—	—	—	50	34	7
Group III.							
1907-08	56	29	22	17	13	40	3
1908-09	80	—	38	28	18	58	4
1909-10	48	—	—	25	15	30	3
1910-11	39	—	—	—	12	23	4
All Cases Considered Together.							
1907-08	165	113	98	85	66	77	22
1908-09	177	—	117	85	63	100	14
1909-10	162	—	—	106	83	65	14
1910-11	167	—	—	—	92	60	15

(To be continued.)

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ANEURYSM OF THE DESCENDING THORACIC AORTA PRESENTING SOME UNUSUAL FEATURES.

BY REES PHILLIPS, M.D., B.S. LOND.,
ASSISTANT MEDICAL OFFICER, LAMBETH INFIRMARY.

THE points of interest in this case appear to be: (1) The absence of manifest physical signs during a long course of severe symptoms (it was only in the last few weeks of life that a diagnosis was established); and (2) the unusual direction that the aneurysmal sac took—into the base of the *right* chest.

The patient, a male aged 43 years, was first admitted to Lambeth Infirmary in July, 1911, complaining of periodic attacks of pain resembling right renal colic. There was a history of similar attacks for two years previously. Physical examination and examination of the urine were negative. He remained in the infirmary a week, and went out "improved", but the nature of his pains was undetermined.

The patient returned to the infirmary on Jan. 31st, 1912, and remained until Feb. 15th. He had several attacks of apparently agonising pain radiating from the right hypochondrium to the right groin while in the infirmary, but again a careful examination of chest, abdomen, and urine failed to throw light on the condition. There were no signs of locomotor ataxy, and no history of syphilis was elicited.

On May 21st the patient came to the infirmary again, and remained until July 18th. His symptoms were as before, but his general appearance had deteriorated. His skin was getting pigmented, almost suggesting Addison's disease. It was now noticed that the apex beat of the heart was a little outside the usual position, and there was a heaving impulse around the nipple. A faint systolic mitral bruit was heard.

On July 23rd the patient was again admitted to the infirmary with similar symptoms and he remained until August 29th. On admission it was noticed that his right kidney appeared palpable. The urine was normal. On July 25th he developed signs and symptoms of right basal pleurisy with some blood-stained expectoration. It was noticed that he was getting sallower, with general loss of muscular tone. The systolic blood pressure on July 27th was 130 mm. Hg. The symptoms improved and the patient was discharged on August 29th, but with some dulness at the right base.

The patient was finally admitted on Nov. 7th, 1912. His general condition appeared worse. He was sallow, flabby, and rather wasted. There was still some dulness, with deficient breath sound at the right base, and the heart apex beat was outside the normal position, but otherwise nothing was made out to account for the severe pains that he still suffered periodically. I heard that he had been in Middlesex Hospital in the March previous, and Dr. K. D. Marriner, the medical registrar, kindly informed me that a positive Wassermann reaction had been given, and that the case had been treated for specific myocarditis. The patient continued to suffer great pain in the loin, but no change was observed in the physical signs until December, when a heaving pulsation was noticed at the right base. It was obviously an aneurysm, either of the aorta or of the right renal artery. No pulsation was felt in the abdomen.

Laparotomy was performed on Dec. 17th by Mr. Wilfred Trotter, and the condition was found to be an aneurysm of the thoracic aorta bulging the diaphragm downwards and extending behind the liver. The aneurysm increased rapidly in size and formed a striking pulsating swelling in the right base. The patient became gradually weaker and died on Jan. 10th, 1913.

Post mortem a limited examination was made. The heart was apparently healthy, not enlarged, but displaced. The right pleural cavity contained much clear sero-sanguineous fluid, and there were extensive fine adhesions between the right lung and the pleura. The whole extent of the aorta showed diseased intima, which was extensively marked with brittle plaques. An enormous saccular aneurysm proceeded from the back of the lower part of the thoracic aorta to occupy the whole of the right base. The neck of the sac admitted the closed fist and the margin was bounded by a calcareous ring. The lower four dorsal vertebræ were extensively eroded, as were the last two ribs. The œsophagus, lying in front of the aorta, was apparently unaffected.

I am indebted to Dr. A. Lionel Baly, our medical superintendent, for permission to publish this case, and I also wish to thank Mr. Trotter for his courtesy and kind services in connexion therewith.

Lambeth Infirmary, Brook-street, Kennington-road, S.E.

TWO CASES OF FRONTAL SINUSITIS WITH BONE COMPLICATIONS.

BY W. S. KERR, M.B. EDIN., F.R.C.S. EDIN.,
SURGEON, EAR AND THROAT DEPARTMENT, ROYAL INFIRMARY, SHEFFIELD.

I PUBLISH these cases to show the varying conditions of bone complications one may meet with in this condition.

CASE 1.—I was consulted in January, 1911, by a girl, aged 19, who complained of very severe pain over the left eye and headaches of two weeks' duration. She had been troubled with nasal catarrh for many years, and had had adenoids removed nine weeks previously. There was no pus to be seen in the nose and an attempt to catheterise the sinus failed. Her temperature was 100° F. Palliative measures failing to give relief, I opened the sinus on Jan. 28th. The mucous membrane was much swollen and intensely congested. No pus was present, but much mucus secretion was evacuated. The temperature soon fell to normal and the pain disappeared. The tube was removed two days later, and the patient remained well for five days. On Feb. 5th she suddenly complained of severe frontal and occipital pain accompanied by retching and vomiting. Her features became swollen and puffy and her temperature ran up to 104°. The pain was especially marked over the left vertex, where there was intense tenderness with slight bogginess. The frontal wound remained healed and clean, and there was no suggestion of an erysipelatous infection. The sinus was reopened and freely drained. Pus was still absent. That evening the temperature rose to 105.4°, although the headache was somewhat relieved. The retching continued, and the patient remained seriously ill. Some cerebro-spinal fluid drawn off by lumbar puncture was kindly examined by my colleague, Dr. A. E. Barnes, and found to be normal. This condition of the fluid, together with the absence of increased pressure in the cerebro-spinal sac, made it improbable that the symptoms were due to any intracranial complication. A blood count showed 21,500 white cells. The temperature gradually fell and the other symptoms abated. Pus began to drain freely from the wound and on the 14th the temperature was normal. She remained well until February, 1912, when, owing to a recurrence of the frontal pain and headache, a radical operation was performed on the left frontal sinus and ethmoidal cells, which resulted in complete recovery.

CASE 2.—This case was that of a man, aged 42, who complained of pain and swelling over the right side of the forehead of eight weeks' duration. When I first saw him, in November, 1912, the swelling was circumscribed, fixed and firm, with no bogginess or implication of the skin. There was no pus to be seen in the nose, but there was marked nasal obstruction caused by hypertrophy of the turbinals and a large left septal ridge and spur. The swelling eventually showed signs of fluctuation, and pus, infected with bacillus pyocyaneus, was evacuated. On Nov. 25th I did a radical operation on the right frontal sinus. There was a large bony erosion of the anterior wall and a smaller one on the floor of the sinus. The sinus was filled with pus. The remainder of the anterior wall, which was carious, and the floor were removed, and the anterior ethmoidal cells, which were also suppurating, were eviscerated. The man made an uneventful recovery.

The alarming symptoms in the first case were undoubtedly due to the premature withdrawal of the drainage-tube, and the bogginess and intense pain over the left side of the vertex pointed to a commencing infection of the bone. The rapid disappearance of the symptoms on the re-establishment of free drainage was the most marked and satisfactory feature of the case. The swelling in the second case was at first so firm, circumscribed, and comparatively painless that it suggested either a gumma or sarcoma rather than a simple inflammatory swelling.

Sheffield.

NOTE ON A CASE OF A LARGE CONCRETION COMPOSED MAINLY OF CALCIUM PHOSPHATE FOUND INSIDE THE FISTULOUS CHANNEL IN A CASE OF FISTULA IN ANO.

By D. W. Keiller Moody, M.D., C.M. Aberd.

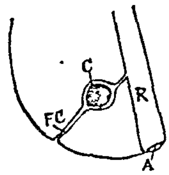
Is the following case unique?

A man aged 62 years was admitted to Addenbrooke's Hospital, Cambridge, under the care of Mr. Joseph Griffiths, suffering from a fistula in ano. He had never had any pain or discomfort, and he only sought medical advice because he said he noticed on going to stool a little "matter," and wondered if there was anything wrong. After dilating the sphincter an incision was made over the fistula and passing through the sphincter. The knife struck a hard object, which turned out to be a concretion about the size of a schoolboy's marble; it was very hard and fairly uniform in shape. It was found in the fistulous channel, not projecting into the rectum, but close to the rectal opening.

Fig. 1.

From a photograph of the concretion.

Fig. 2.



Diagrammatic sketch to indicate site of concretion. F C, Fistulous channel. C, Concretion. R, Rectum. A, Anus.

One thought it might be a gall-stone, a pancreatic, prostatic, or salivary calculus, or foreign body swallowed, or some insoluble drug taken over a long period. But it turned out to be essentially a phosphate of lime concretion.

Dr. F. G. Hopkins, F.R.S., of Cambridge University Physiological Laboratory, very kindly analysed it. It was found to contain: calcium phosphate, 88 per cent.; magnesium phosphate, 2·5 per cent.; stercobilin and altered bile pigments, 5 per cent. (circa); dried mucus and other organic matter, 2 per cent.; salts other than phosphates, and traces of undetermined substances, 2·5 per cent.

I have asked many surgeons as to how it got there. Most of them "gave it up"; but one said he thought it probably got lodged in a diverticulum and, increasing in size as years went on, it eventually ulcerated its way through and so produced the fistula. This seems quite a reasonable view.

Royal Sanitary Institute.—A sessional meeting of the institute will be held at 90, Buckingham Palace-road, on Tuesday, March 11th, at 7.30 p.m., when a discussion will take place on Milk and Dairies Bill, to be opened by Mr. Herbert Jones, medical officer of health, Herefordshire combined districts. Among those who expect to take part in the discussion are Dr. A. G. R. Cameron, Mr. F. E. Fremantle, Mr. Hugh Stott, Dr. J. S. Tew, and Mr. J. Tubb-Thomas. General discussion is invited. The chair will be taken by Mr. A. Wynter Blyth. Tickets for admission of visitors may be had on application.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Demonstration of Cases.—Summer Diarrhœa and Summer Heat.

A meeting of this section was held on Feb. 28th, Mr. A. H. Tubby, the President, being in the chair.

Dr. F. Parkes Weber showed a case of Slight Congenital Deformity of the Hands in a Child. The deformity consisted in partial flexion of the fingers at the metacarpophalangeal joints. The child could use his hand fairly well to grasp with, but could not completely extend any of the fingers except the left index finger. Both the little fingers could, however, be *passively* completely extended. In some spontaneous positions of the hands slight ulnar deflexion of the fingers was likewise noticeable. The patient, a boy, aged 17 months, was born at full term, easily, without instrumental help. He was the only child of healthy parents, who were both young. The mother had had one miscarriage before the child was born. There was no history of any similar deformity in the family, nor was there any special family tendency to arthritic affections. The child had a little convergent squint, and possibly slight hydrocephalus. He likewise presented some rachitic "beading" of the ribs, but otherwise appeared well developed and mentally normal. The position of the hands at first suggested the carpopedal contractions in tetany, but the child had no facial irritability, and nothing else which would in the slightest degree suggest tetany. The feet and toes were quite normal in shape and position. Since the child was two months old the mother had practised a kind of massage with passive movements for his hands, and thought that he could use his fingers better as a result of her treatment. Skiagrams of the hands showed nothing special. There seemed to be no disease in the joints. Dr. Weber had not heard of any exactly similar case. The fault seemed to lie chiefly in the muscles which extended the first phalanges.—In the discussion which followed, the President expressed the opinion that the condition was due to congenital tightness of the palmar fascia.

Dr. Weber also showed a case of Infantilism due to Mitral Stenosis. The patient, a girl aged 15, had the stature and appearance of a girl of 10.

Dr. F. G Crookshank showed a case of a Mongoloid child. The boy was a mongoloid of undoubted European parentage, in whom ethnic characters, conforming to a type of racial mongolism, were well marked without the coincidence of any trace of rickets, tuberculosis, syphilis, dysthyroidism, or other disturbing factor. There was no coarse bodily or mental defect, and such features as the fissured tongue and the orangoid ear, so common in mongoloids of the lower grades, were absent. But some traits were present that were simian or orangoid. The child, aged 5 years, was the younger of two sons born to a father who was aged 38 years and a mother who was aged 28 years. The elder brother, aged 7 years, was thin and nervous. The patient himself had a yellow skin and dark hair, though his mother stated that at birth he was "almost black." His hair was fine; his eye-focus of a characteristic form (though the eyes were not "oblique") and his profile was distinctly Chinese. The head, as in a certain proportion of mongoloids, especially of higher grade, was well developed occipitally. The lips were extraordinarily plastic, and the boy, when in the mood, would project them in trumpet form and hoot in imitation of a motor-car, producing noises precisely like those emitted by anthropoid apes. In both jaws the canine teeth were markedly long and tusk-like. The lower incisors were small and the lateral incisors in the upper jaw were notably smaller than those which were central. The testicles were small and probably descended late. He had what had been called a "high pelvis," the crests of the ilia appearing to rise high in the loins, so that the folds of the groins included a more acute angle than usual. He was highly estimated by his comrades as a contortionist.

Dr. **EDMUND CAUTLEY** showed a case of Mongolism in a baby 3 months old.

Mr. J. E. **ADAMS** showed two cases of Congenital *Coalescence of Radius and Ulna*. They were of two children in the same family in whom deformity had been noticed from birth. Both forearms were held in a position of pronation, and although there was movement at the inferior radio-ulnar articulation, supination was almost absent. There was a forward and outward curve in the shaft of the radius. Skiagraphy had shown that the radius was fused with the ulna a short distance below its head, and the deformity was the same in both forearms and in both children. By the kindness of Mr. S. G. Shattock he was enabled to show a specimen from the museum of St. Thomas's Hospital which illustrated precisely the same deformity. A similar case had been described by Dawson.[1] Suggestions were invited as to treatment.—The **PRESIDENT** and Mr. E. **LAMING EVANS**, speaking from observation on a similar case, advised against operative measures.

Mr. **DOUGLAS DREW** showed: 1. A case of Lymphangioma of the Axilla. The patient, a baby aged 9 months, was admitted to the Queen's Hospital with a large, soft, lobulated tumour of the axilla. The tumour occupied the whole axillary space extending up to the clavicle, and required an extensive dissection for its removal, as it surrounded the vessels and nerves. In order to facilitate this the pectoralis minor was removed with the tumour. The specimen was a good example of this variety of tumour. 2. A case of Cicatricial Contraction of the Thumb following a Burn about 18 months previously. X ray photographs showed the thumb drawn back and bound down to the wrist by dense fibrous tissue. After dividing the contracted tissue and liberating the thumb the raw surface was covered by a large flap cut from the back of the hand. 3. A case of Separated *Epiphysis of the Femur treated by Plating*. The operation was performed on Dec. 9th, 1909. The child had been temporarily lost sight of, and was exhibited because the plate had not been removed. An X ray photograph showed that in the process of growth the screw in the epiphysis had been gradually drawn out; there was no shortening of the limb, and the movements were free. As the plate caused no inconvenience and was not hindering growth it did not appear necessary to remove it.

Mr. **EDRED M. CORNER** showed a case of Costo-transversectomy: Spinal Caries and Mediastinal Abscess. The patient, a male aged 6 years and 5 months, was admitted on Dec. 6th, 1909, to the Hospital for Sick Children. On admission there was some kyphosis in the lower dorsal vertebræ, with indications of abscess formation on the left side at the level of the eighth dorsal vertebra. A radiogram (Nov. 30th) showed the existence of a large mediastinal abscess in front of the lower dorsal vertebræ. The operation of costo-transversectomy was done on Dec. 14th, the abscess being opened and drained on the left of the spinal column at the level of the eighth dorsal vertebra. A radiogram (Dec. 29th) showed the abscess cavity and some destruction of the ninth and tenth dorsal vertebræ, especially in the transverse processes of the left side and in the heads of the corresponding ribs. By two operations, on Feb. 18th and March 16th, 1910, the abscess cavity was scraped. On May 17th the heads of the ninth and tenth ribs on the left side were excised. A radiogram (July 8th) showed no indication of abscess cavity remaining; there was formation of new bone in the damaged ribs. On Nov. 22nd a sinus was scraped. On Feb. 28th, 1911, the patient was sent to a convalescent home in a Phelps's box, still having a small sinus. He was readmitted on Oct. 1st, 1912. On Oct. 3rd an emulsion of bismuth and iodoform was injected into the sinus. A radiogram showed a small cavity containing bismuth and considerable destruction in the lower dorsal vertebræ, especially the eighth, ninth, and tenth. The sinus gradually closed after the injection. When exhibited the patient had a marked but not extreme degree of kyphosis in the lower dorsal region. On the left of the spine at the level of the ninth dorsal vertebra, there was a depression marking the position of the old sinus, which had healed. A radiogram (Feb. 10th) showed no abscess formation, but there was destruction of the bodies of the lower dorsal vertebræ, especially the ninth and tenth.

Mr. **CORNER** also showed a case of Congenital Absence of Fibula, Deformity of Tarsus, and Absence of Toe. The patient was a baby and presented the appearance characteristic of the condition. A skiagram showed the absence of the fibula. The tibia was bowed sharply and seemed shorter than the other. The summit of the convexity of the tibia was sharp and presented a groove or dimple over it. The movements of the ankle-joint were somewhat restricted. Apparently the fifth toe was absent. The doctor who first saw the patient diagnosed an intra-uterine fracture which had united. The absence of the toe led to the correct diagnosis, confirmed by the skiagram, of "congenital deformity of leg." In addition the skiagram demonstrated the characters of the deformity; absence of fibula, one centre of ossification representing both the astragalus and calcaneum, absence of the fifth toe and its metacarpal.

Dr. **CAUTLEY** showed a case of Chronic Albuminuria with Hepatic Enlargement. The girl, aged 8 years and 2 months, was the daughter of healthy parents, but a grand-parent and great grandparent were said to have died from phthisis. She had had measles, varicella, mumps, and pertussis. During 1910 she was an in-patient at another hospital for four months for albuminuria. Later on a gland was excised from the left side of the neck, and tonsils and adenoids were removed. From June 20th to July 8th, 1911, she was admitted to the Belgrave Hospital for bronchitis, albuminuria, and right otorrhœa. Two months before this she had had pneumonia, bronchitis, and measles. The attack of bronchitis subsided quickly. Her urine contained much albumin but no casts. A year later she was again admitted for bronchitis and the urine was found to contain a fairly dense cloud of albumin. In November last she was admitted for prolapsus recti. When exhibited she had been an in-patient since Jan. 28th for an attack of bronchitis and anasarca. The face and legs had been moderately swollen for four days. The liver extended 2 in. below the ribs and the spleen was palpable, the abdomen being considerably distended, though there was no dulness in the flanks. The urine contained 0·2 to 0·7 per cent. albumin. A centrifugalised specimen on Feb. 12th showed many white cells, several granular and hyaline and a few epithelial casts. The total daily amount of urine varied greatly—e.g., 12, 22, 30, and 13 oz. on successive days. Von Pirquet's reaction was negative and there was no reason to suspect syphilis. The case was shown with a view of eliciting opinions as to the nature of the albuminuria, the causation of the hepatic enlargement, and the probable prognosis.

Dr. **H. CHARLES CAMERON** read a short paper on Summer Diarrhœa and Summer Heat. Its object was to emphasise the importance of temperature and environment as direct causes of summer diarrhœa, in contradistinction to infection.

SECTION OF ELECTRO-THERAPEUTICS.

The Use of X Rays in the Diagnosis of Pulmonary Tuberculosis.

A MEETING of this section was held on Feb. 21st under the presidency of Dr. **REGINALD MORTON**. The subject for discussion was the Use of X Rays in the Diagnosis of Pulmonary Tuberculosis.

Sir **R. DOUGLAS POWELL** declared that no one appreciated X ray work more than he did, and especially the advances in technique. The use of X rays in connexion with lung disease he understood to be to correct or confirm what was revealed by auscultation and percussion. Dr. Jordan, in a published work on the subject, laid stress on the presence of streaks of shadows in the X ray picture leading from the bronchial glands, and enlargements of those glands, but the speaker did not regard that as necessarily evidence of active tubercle [illegible] found in [illegible] dustbins [illegible] sidered trifles which might gather in the bronchial tubes and get into the lymph streams, and their enlargement need not be held to mean that they were tubercular. Dr. Jordan himself had found tuberculous disease present in 33 per cent. of people who met with an accident when apparently healthy and died. The bronchial glands were also the lethal chambers of tubercle bacilli. Children, and sometimes adults, might have the bronchial glands affected, but rarely primarily. There was some danger of being obsessed by instrument records; hence infinite care was needed in taking and interpreting X ray pictures. How greatly would

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[1] Brit. Med. Jour., Oct. 5th, 1912.

X rays have helped in early days in deciding whether a case was one of phthisis or one of foreign body. From a simple judgment of shadows a healing fibrosis might be regarded as an extension of disease. To sum up, he considered that X rays were valuable in the case of pulmonary tuberculosis in the sense that percussion and auscultation were valuable; but X ray usefulness did not go beyond that.

Dr. W. J. S. **BYTHELL** (Manchester), in a paper on the Early Diagnosis of Pulmonary Tuberculosis in Young Children by means of the X Rays, gave the results of the X ray examination of nearly 400 children between the ages of 4 and 12, with the object of showing (*a*) the value of the rays in the early diagnosis, and (*b*) the seat of origin of pulmonary tuberculosis in young children. The author laid special stress upon the importance of carefully examining the roots in order to determine the presence or absence of enlarged bronchial glands, and also upon the necessity of distinguishing between active and healed tubercular infections. Attention was drawn to the great frequency of tubercular infection among all classes, and especially among children in the poorer parts of big towns; in most cases the infection was overcome without permanent ill-effects, but probably scars are always left behind, most commonly in the form of calcareous bronchial glands. 150 of the cases were tabulated with the following result:—

Clinical examination.		X ray examination.	
	Positive.	Suspicious.	Negative.
Positive 43	35	5	3
Suspicious ... 67	38	16	13
Negative 40	9	8	23

The author draws the following conclusions: (1) Among poor children in big towns probably the actual majority show signs of tubercular infection of the roots of the lungs; (2) an X ray examination often reveals this fact before there are any physical signs by means of which the clinician is able to make a diagnosis; and (3) the disease appears to commence invariably at the roots of the lungs. In this connexion Jordan's views upon peribronchial tubercular infiltration were discussed with the aid of lantern slides.

Dr. **DAVID B. LEES** said that seven years ago he investigated some cases by auscultation and percussion, and Dr. G. A. Simmons radiographed them, and the conclusion they arrived at was that X rays would not show areas of apical dulness which to his percussion were clearly diseased. But he quite expected that improvement in technique would alter that, and this had proved to be the case. But he thought the value of careful and accurate percussion in incipient pulmonary tuberculosis was much under-estimated; he also thought physicians should cease examining patients while in the erect posture. He did not agree that in the majority of cases, in children at all events, the disease started in the bronchial glands. Post mortem many children were found to have caseous bronchial glands, but with no sign of lung tubercle. The bacilli seemed to pass through the mucous membrane into the glands without leaving any trace of their passage. In a series of cases examined by himself, and independently with X rays by Dr. G. H. Orton, he found the latter accurately confirmed both the presence of the disease and the particular side involved. But he insisted that the radiograph should always be taken by an expert, and great care should be exercised over its interpretation. X rays had also clearly shown a nervous inhibition of the diaphragm in cases of chest disease, so that the patient felt quite unable to take a deep breath when required to.

Dr. A. C. **JORDAN** said that as a result of further observation since publishing his paper he was convinced that hilus or peribronchial tuberculosis occurred even more frequently than he had there stated. In 13 consecutive cases examined at a chest hospital all showed considerable peribronchial mottling, whether the apices were or were not involved. He had never felt impressed by the statement that tuberculosis commenced at the roots of the lungs. The first change was a catarrhal broncho-pneumonia, then followed a leucocyte invasion of the surrounding tissue, and the glands were involved secondarily. In one case he radiographed a patient's lung, and five diseased areas were lettered; shortly afterwards she died from accident, and the post-mortem examination exactly confirmed what he found by X rays.

Dr. W. **PASTEUR** spoke of the new idea that tuberculosis first appeared at the root of the lung and then spread outwards. The new conception should be confirmed by evidence which was irrefutable before the profession was asked to accept it.

Dr **STANLEY MELVILLE** said the attitude of clinicians up to quite recent times might be summed up in a sentence taken from a well-known text-book: "In the early stages of pulmonary tuberculosis the method had been found to be of but little use." Recent work had modified this attitude, and the clinician of the future ought not to rest satisfied until his findings have been fortified or modified by X ray examination. It was impossible to divorce the clinical from the radiographic examination or to regard them as alternative methods. An acknowledgment was made of the debt which was due to early workers on the subject—e.g., Walsham and Orton. What should be taken as the standard of average normal chest? So great a proportion showed opacities at the hilum or linear shadows that they must be regarded as within the limits of health, or the view must be accepted that an overwhelming percentage of the population are, or have been, infected with tubercle. As to the radiographer's type of chest, which is *primâ facie* suggestive of pulmonary tuberculosis, this was considered under the following headings: movement of chest and diaphragm, size of heart (dystrophy), mediastinal contents (glands), significance of linear striation. Dislike was expressed of the term peribronchial phthisis. Why not "central," as in contra-distinction to "apical" or "basal" pulmonary tuberculosis? There was a difficulty in following Dr. Jordan's argument. If definite opaque masses at the hilum + radiating linear opacities were pathognomonic of pulmonary tuberculosis, then they occurred in so vast a percentage of cases as to compel medical practitioners to *notify* about 90 per cent. of the population, and at best the radiographer could only say that they are suggestive of *arrested* tubercle. If his argument is that this condition + definite surrounding mottling suggests activity, then he is stating nothing that radiographers have not appreciated for years—viz, that mottling of lung tissue is the X ray sign of pulmonary tuberculosis, and the activity of the process depends upon (1) the X ray appearance, whether "woolly" or "hard," (2) clinical evidence—e.g., temperature, &c.

The discussion was adjourned until March 19th.

HUNTERIAN SOCIETY.

Exhibition of Cases.

A CLINICAL meeting of this society was held at the London Hospital on Feb. 26th, Mr. A. H. **TUBBY**, the President, being in the chair.

Dr. P. N. **PANTON** demonstrated cases and blood films illustrating the various types of the Non-granular Leukæmias. Specimens or cases were shown of the following conditions: chloroma, with the blood changes of acute myeloid leukæmia; acute myeloid leukæmia; the myeloblastic stage of chronic myeloid leukæmia; acute lymphoid leukæmia; and three cases of chronic lymphoid leukæmia.

Mr. S. **GILBERT SCOTT** showed some radiograms of Bone Diseases, Innocent and Malignant, also radiograms of Pituitary Tumour, &c.

Dr. **LEWIS A. SMITH** showed a case of Polycythæmia associated with Congenital Morbus Cordis in a boy.

Dr. J. H. **SEQUEIRA** showed a remarkable case of Multiple Lupus.

Mr. **HUGH LETT** showed a case of Cervical Rib. The patient was a woman, aged 27, who had suffered from pain down the inner side of the right arm and forearm for the last two years. The hand got tired more easily than the one on the opposite side, and was very susceptible to cold weather. On examination there was marked wasting of the muscles of the thenar and hypothenar eminences, and also of the interossei. There was some loss of sensation on the inner side of the forearm and hand. The pulse in the right radial artery was smaller than that in the left. No bony tumour could be felt in the neck, but a skiagram showed two bony projections, apparently an inch and a half long extending downwards and outwards from the transverse processes of the seventh cervical vertebra

Dr R HUTCHISON showed 1 A photograph of a girl 3 years of age, who is the subject of Acute Myeloid Leukæmia with infiltration of both parotids and swelling of all the lymphatic glands 2 A case of probable early Acromegaly in a man aged 42 with enlargement of the hands and feet and concentric diminution of the visual fields A radiogram of the base of the skull, however showed nothing abnormal and there was no diminution of sugar tolerance

Mr L J AUSTIN showed 1 A case of Pancreatic Cyst (Mr P Furnivall s case) in a man aged 45 In August 1912 the patient was hit in the lower part of the chest by the pole of a cart and recovered from the accident in a few weeks Some months later a large swelling was region which was tense, globular with respiration The diagnosis pancreatic cyst of traumatic origin 2 A case of Osteitis Deformans (Dr F J Smith s case) The patient aged 50 had noticed changes in his skull for three to four years On examination he presented the following typical signs (1) An irregular bossy head , (2) marked kypho is (3) enlarged and curved tibiæ Most excellent radiograms were exhibited showing the changes in the skull spine and legs 3 A specimen of Chronic Duodenal and Gastric Ulcers (Mr J Sherren s case) The patient aged 61 had had symptoms for about three years and was admitted to the London Hospital with some hæmatemesis and melæna He died before any operation could be performed The specimen showed a chronic gastric ulcer on the lesser curve 4 cm from the pylorus and also a chronic duodenal ulcer on the posterior surface of the duodenum with firm adhesions to the pancreas At the base of this ulcer was seen a ruptured aneurysmal dilatation of the gastro duodenal artery Mr Sherren also provided seven cases of cured duodenal ulcers three of which had perforated at the time of operation Only one had any symptoms of discomfort and in this case perforation had occurred Gastro enterostomy had been performed on all of these and in one case where closure of ulcer only had been performed an enterostomy had to be done subsequently

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MANCHESTER MEDICAL SOCIETY

Treatment of Syphilis by Neosalvarsan with Wassermann Control —Early Diagnosis of Pulmonary Tuberculosis in Young Children

A MEETING of this society was held on Feb 19th

Mr L SAVATARD dealing with the clinical aspect of the Treatment of Syphilis by Neosalvarsan with Wassermann Control said he was stimulated to a more thorough use of neosalvarsan after hearing McDonagh's paper on a Rational Method of Treating Syphilis in July last Since that time he had treated some 25 cases and given about 100 injections with excellent results In five cases he had administered the drug intramuscularly (according to Wolbarst s method) and though there had been no pain at the time all the patients had suffered afterwards The remainder had all been treated intravenously The greatest care had been taken in the preparation of the patient and of the apparatus McDonagh s syringe was used the neosalvarsan was dissolved in *freshly redistilled* water heated to 100° C and then cooled to 25° C , the dosage varied from 0 6 grm to 0 9 grm All the cases thus treated had apart from their syphilitic affection been otherwise healthy No bad symptoms had resulted and in no instance had there been any rise of temperature The injections had been given in some cases weekly in others fortnightly and in others every three weeks When a *cure* was aimed at, the injection was continued till the Wassermann reaction was negative both before and after the last injection To produce this result in secondary cases at least seven injections had been found necessary Mercury had been administered afterwards The earlier the treatment the sooner was the cure effected Among the secondary cases previously untreated referred to and shown on the screen were macular papular, pustular and frambœsiform syphilides A case of syphilitic leucoderma in a man was also mentioned in which a single injection had effected a symptomatic cure The tertiary cases shown had previously resisted prolonged treatment with mercury and potassium iodide and among these were patients with extensive lesions of the buccal cavity and a malignant syphilide The speaker commended the use of provocative injection in cases of latent syphilis —Dr ARNOLD RENSHAW dealt with the pathological aspect The evolution of the Wassermann reaction was traced from the time when Pfeiffer demonstrated the phenomenon of bacteriolysis Discussing the nature of the antibodies which cause a positive reaction the speaker considered that they could not be true antibodies similar, say, to those present in streptococcal infections since so far as he knew no spirochætæ had been demonstrated as being ingested by leucocytes He maintained that a positive Wassermann reaction is an expression of the amount of liberated endotoxin obtained by the destruction of spirochætæ and its subsequent action upon the cells Whether that reaction was due to the actual disorganisation of the cells brought about in some special chemical manner—possibly a catalytic reaction—by the particular endotoxin set free by the dead spirochætæ had yet to be demonstrated A schematic representation of the life cycle of the organism of syphilis as worked out by McDonagh was next shown and used to explain why in certain stages of the disease a negative reaction was present which would become positive after an intravenous injection of neosalvarsan treatment being continued until the reaction was negative immediately after an injection A comparison between this method and the sterilisation of tetanus spores was made it being suggested that neosalvarsan stimulated the zygotes to develop into a stage in which they might be killed Stomatitis cases usually gave a very strongly positive reaction and where a mouth lesion of any magnitude was present without a slightly positive reaction it should be suspected that the disease had had some other infective process—e g tuberculosis—superadded, or that the condition had progressed to the stage of carcinoma

Dr C P LAPAGE read a paper on the Early Diagnosis of Pulmonary Tuberculosis in Young Children with Special Reference to the Value of X Rays as an Auxiliary to Clinical Examination He drew attention to the frequency of pulmonary tuberculosis in children and to the evidence which showed that the disease was so often at the roots of the lungs He described the conditions which gave most difficulty in diagnosis (1) Active open disease at the roots , (2) active disease limited to the bronchial glands , and (3) healed disease in the lungs with some superadded condition giving general symptoms resembling those of tuberculosis Having noted the fact that with ordinary clinical methods it was often impossible to make a definite diagnosis owing to the absence of physical signs he demonstrated the value of the X rays in clinching a diagnosis based on suspicious symptoms only The results of the examination of 150 cases, most of them chosen because of their suspicious condition clinically was given in tabular form The table showed the relation between the clinical and the X ray examination as made independently by clinician and radiographer Dr Lapage upheld the great value of the X rays in these cases as a supplement to the clinical examination, and pointed out the importance of establishing the normal screen picture of the thorax —Dr W J S BYTHELL first dealt with the nature of the evidence afforded by an X ray examination directing attention specially to the importance of thoroughly examining the appearance of the roots of the lungs In his opinion the normal streaky markings visible in all lungs might be increased by bronchitis, and he regarded shadows due to enlargement of the bronchial glands or to pulmonary consolidation as the only reliable signs of tuberculous infection As the result of 300 or 400 examinations he had made he concluded that the majority of children living in our large towns present evidence of the tuberculous infection after the age of 6 to 8 years In most cases the glands were able to overcome the bacilli but should they caseate and break down the infection extended directly to the adjacent lung tissue and led to a tuberculous broncho pneumonia originating at the hilus of the lung In any case he was strongly of opinion that pulmonary tuberculosis in children commenced in the vast majority of cases, if not invariably at the root of the lung In the earliest stages of this root disease definite indication of the lesion might often be discovered by means of the rays when no physical signs were to be detected

LIVERPOOL MEDICAL INSTITUTION.

Recurring Dislocation of the Shoulder.—X Ray Examination of the Stomach.—Some Points in Modern Eye Practice.

A MEETING of this society was held on Feb. 20th, Mr. ROBERT JONES, the President, being in the chair.

Mr. T. R. W. ARMOUR read a note on two cases of Recurring Dislocation of the Shoulder in which "Clermont's" operation had been performed by Mr. Robert Jones. The first patient had had his right shoulder dislocated 76 times and his left 26 times. He had had capsulorrhaphy performed on both joints without success. The operation consisted in bringing a long flap of the posterior margin of the deltoid through the quadrilateral space in front of the capsule of the joint and stretching its end in front under the coracoid process. This deepened the socket and tightened the capsule. Care was needed to avoid injury to the nerve and arterial supply of the muscle. In the first case the operation performed in June last year had not been a success. The second case was done last November, and so far had been quite satisfactory. Mr. Robert Jones said that the first case had failed from faulty technique; the deltoid flap had not been long enough and the tunnel not wide enough to allow easy manipulation; also the fixation of the flap had not been sufficient to prevent the flap of muscle returning to its original place. In the second case care had been taken in these points, and so far with good result. The operation was only on its trial.

Mr. C. THURSTAN HOLLAND read a short paper on X Ray Examination of the Stomach. From one-half to three-quarters of a pint of bread and milk, of the consistence of bread-sauce, mixed with three or more ounces of carbonate of bismuth, or barium sulphate, which was much less expensive, was given to a fasting patient. The stomach was then seen to be much longer and narrower than was depicted in anatomical works even of recent date. The lower end came to the level of the iliac crest, and the whole organ was to the left of the middle line. The movements were rhythmical, at the rate of 1 in 20 seconds, and did not go through into the duodenum. The food did not lie at the lowest part of the stomach, but was distributed through the length when full. The normal stomach emptied in about 3½ hours after this test meal. Mr. Holland showed photographs on the lantern screen of the normal stomach and its variations and contractions: three cases of transposed viscera; cases where gastric enterostomy had been done; cases of gastroptosis; of dilated stomach, in which he showed the lower end of the stomach was quite in the pelvis; also cases of malignant disease and of hour-glass contractions of the organ.—Dr. T. R. BRADSHAW said that physicians recognised Mr. Holland as an expert authority and welcomed the immense aid that the X ray method gave in diagnosis in very many cases.—Dr. J. HILL ABRAM said that the physician would still be obliged, especially in places remote from elaborate equipment, to rely on the older methods of diagnosis, while they, of course, welcomed the confirmation and help that radiographic methods afforded.—Mr. J. BRADLEY HUGHES and Dr. R. J. M. BUCHANAN also spoke, and Mr. THURSTAN HOLLAND replied.

Dr. EDGAR STEVENSON read a paper on Some Points in Modern Eye Practice. In speaking of therapeutic agents, he said that he had found cocaine hydrochlorate the most useful of the group of local anæsthetics. He thought that a weak mydriatic, such as homatropine, was safer than the stronger preparations. Among silver preparations the nitrate was the most useful. Subconjunctival injections of oxychloride of mercury had been found useful in septic cases. Of internal remedies, aspirin in trauma and in iritis cases, and sodium salicylate in large doses in sympathetic ophthalmia had been of service. Dr. Stevenson's experience of salvarsan, of vaccines, and sera had not been very favourable. Of physical remedies, he condemned cold applications as dangerous, and found heat more useful. He still found depletion by leeches of great benefit. Time did not permit the whole paper to be read, but Dr. Stevenson showed two preparations illustrating Tote's operation for dacrocystitis.—Mr. T. H. BICKERTON disagreed with the use of nitrate of silver in gonorrhœal ophthalmia; he had used none for 16 years. He used iced compresses, and had never lost an eye.—Mr. W. T. CLEGG called attention to the omission of urotropine, which he had found useful in wounds of the eye. He did not think subconjunctival injections were better than ordinary subcutaneous injections. In the treatment of dacrocystitis he was satisfied with the older methods of treatment, and thought that excision of the sac should be of very limited application.—Dr. A. NIMMO WALKER agreed with Dr. Stevenson in his condemnation of the use of ice pads in gonorrhœal ophthalmia, and was convinced that warm moist applications were the best in the acute stage. He had not tried bloodletting in glaucoma. In a routine examination of the blood pressure in cases of chronic glaucoma he had failed to find any definite relationship between changes in circulatory and ocular tensions. In dacrocystitis slitting the canaliculi and probing were worse than useless. The new operation described by Dr. Stevenson was well worth trying.—Mr. E. MALCOLM STOCKDALE agreed that the old-established drugs, such as cocaine, atropine, and boric acid, still retained their place in eye work. The use of silver nitrate solutions, he thought, should always be very limited and applied with the greatest care. In gonorrhœal ophthalmia the infection, being at first on the surface, could be washed away by a mild lotion, such as boric acid. In advanced lacrymal disease he had found excision of the sac to yield satisfactory results.—Mr. R. E. HARCOURT and Dr. J. R. LOGAN also spoke, and Dr. STEVENSON replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF ANATOMY AND PHYSIOLOGY.

The Adequate Stimuli of the Respiratory Centre.

A MEETING of this section was held on Jan. 24th, Dr. B. J. COLLINGWOOD, the President, being in the chair.

Professor T. H. MILROY read a paper on the Adequate Stimuli of the Respiratory Centre. He described the methods of studying the influence of nervous factors in the production of apnœa, and also the effects of various gas mixtures on the quiescent centre. The following conclusions were tabulated: 1. Alterations in the rate or degree of distension of the pulmonary alveoli when the amount of ventilation is constant do not affect the duration of the apnœic pause in any constant direction, but a repetition of ventilation periods tends to prolong the pause. 2. Removal of the vagal control does not interfere with the production of the apnœic pause. 3. Any rise in the CO_2 content of the air used for ventilation shortens the apnœic pause, and any increase in the carbonic acid content of the gas mixture used to distend the lung after pulmonary ventilation with air shortens the period. With increased CO_2 content of these gas mixtures irrespective of the amount of oxygen, the apnœic pause proportionately decreases. 4. Injection of small quantities of acid solutions directly into the carotid during the pause leads to respiratory movements of an exaggerated type, as does also injection into the central end of the carotid and into the external jugular vein to a lesser degree. 5. With the excitation of such respirations during the pause there is associated an increased passage of carbonic acid from pulmonary blood to air. 6. These effects are produced after removal of the vagal control, but the excitability of the centre under such conditions seems to be diminished. 7. The passage of CO_2 from alveolar gas mixtures to blood, or from blood to alveoli, seems to depend entirely upon the difference of the pressure of that gas in the blood and air in the alveoli. 8. It seems most probable that the effective stimulus of the respiratory centre rendered quiescent by over-ventilation is a rise in the carbonic acid concentration in that centre, whether brought about by the normal rise in carbonic acid formation during the pause, with its associated rise in the CH_1, or primarily to a rise in the CH_1 from the formation of acid products of incomplete oxidation giving rise secondarily to an increase of the free CO_2 tension.—Professor W. H. THOMPSON, Dr. O'CONNOR, and the PRESIDENT spoke, and Professor MILROY replied.

Mr. J. M. M'MAHON gave a demonstration of the action of Thrombin and Antithrombin.—The PRESIDENT pointed out that this preparation of thrombin acted equally well in purpura hæmorrhagica and in hæmophilia.—Mr. E. L. SHERIDAN said that he had used this preparation with success for persistent bleeding after extraction of teeth.

Professor THOMPSON described some New Standard Solutions for the Estimation of Creatinin by Folin's Method, and also described a Modification of Benedict's Method for Estimating Urea —The PRESIDENT and Professor MILROY spoke, and Professor THOMPSON replied

SECTION OF OBSTETRICS

Rupture of the Uterus —Wertheim s Hysterectomy —Surgical Treatment of Pelvic Thrombosis of Septic Origin

A MEETING of this section was held on Feb 7th, Dr A J HORNE the President being in the chair

Dr D G MADILL showed two cases of Rupture of the Uterus Case 1 was a multipara aged 34 who was sent into hospital in a collapsed state with a history of having been in labour nine hours Her pains increased in strength for about seven hours, when she got a very severe pain, after which all pains ceased The fœtus could be easily palpated in the abdominal cavity On opening the abdomen the fœtus was found to have left the uterus—all except the head —through a large rent extending from a third way up the uterus on the left downwards and outwards along the base of the left broad ligament The placenta was loose in the uterus, and there was a good deal of intraperitoneal hæmorrhage Supravaginal hysterectomy was done and the patient recovered The second case was a multipara aged 32 Previous labours normal After she had had pains off and on for a fortnight the doctor tried to apply forceps three times, but failed She was then sent into hospital in a moribund state Palpation disclosed the fœtus free in the peritoneal cavity The extremely collapsed condition of the patient prevented immediate operation When the abdomen was opened both fœtus and placenta were found to have left the uterus and an enormous rent was discovered on the right side of the uterus extending down and half way across the cervix in front and behind There was a great deal of intra- and subperitoneal hæmorrhage The bladder was badly torn Hysterectomy was done as rapidly as possible, but the patient succumbed just as the operation was concluded In Case 2 the cause of obstruction was hydrocephalus the baby in addition weighing 9¼ lb In Case 1 the patient had a very pendulous abdomen, and obstruction was probably due to the misdirection of the uterine contractions against the promontory instead of through the brim —Dr H JELLETT pointed out that in the first case Dr Madill had successfully operated on a patient although the child had passed from the uterus into the peritoneal cavity A well known obstetrician had stated that he had never seen a case of uterine rupture such as this where the patient was saved He (Dr Jellett) had reported a similar case to this section during the last session In that case the same treatment was adopted as Dr Madill had adopted, and the patient got perfectly well —Dr B A H SOLOMONS recalled a case in which rupture of the uterus had resulted from a neglected brow presentation, and the body of the child was in the abdominal cavity The child was delivered by forceps, the placenta manually removed and the rent in the uterus plugged with iodoform gauze The patient got quite well Various modes of treatment had from time to time been reported as successful, but it seemed nearly impossible to lay down a definite treatment without seeing the individual case —Dr R D PUREFOY said he had seen and assisted with the two patients He considered it proper that all these cases should be brought forward as most handbooks were calculated to lead younger members of the profession to believe that warning symptoms always preceded the catastrophe

Dr E H TWEEDY exhibited a specimen of Cancer of the Uterus in a patient aged 38 When she first consulted him she stated that she fainted [illegible] The vagina was plugged a [illegible] hospital, but she continued [illegible] he found the entire lip of the cervix malignant She was curetted, but very little came away There was no pain nor history of discharge The uterus was mobile, and ulceration had not taken place There was no cachexia Wertheim's hysterectomy was performed and on opening the uterus a small myoma was found with a blood clot round it which was the cause of the bleeding But for this myoma the patient would not have come up with the cancer Just before closing the abdomen a mass of very adherent glands was found far away from the original growth —Dr PUREFOY said it had long been believed that malignant disease of the cervix became a danger to life early in the progress of the case, and the implication of distant glands in this patient confirmed that view

Dr JELLETT read a paper on the Surgical Treatment of Pelvic Thrombosis of Septic Origin, dealing first with the essential differences between acute and chronic pyæmia He referred to a patient who had died last year in the Rotunda Hospital from pyæmia with thrombosis of the ovarian vein as shown at the post mortem examination He consequently decided to operate on future cases of a similar kind He then recorded three such cases in all of which the initial history was characterised by recurrent rigors, high temperature, and rapid pulse In conclusion, he referred to the interesting fact that in all his cases the thrombosis was on the right side and primarily in the ovarian vein alone Consequently, they were favourable cases for operation He considered that such cases called for operation always and that it should be as early as possible The diagnosis he said was the important point, and that, as a rule this could be made from the symptoms, taken in connexion with thickening or swelling in the broad ligaments, and associated with the comparatively little pain or tenderness —Professor A J SMITH said that anything which went to advance knowledge of the operative treatment for thrombosis of the pelvic veins represented a distinct step The opinion amongst those who had operated seemed to depend more on the conditions found bimanually than on the rise of temperature and comparatively slow pulse —Dr J S SHEILL suggested that the fact of infection taking place more frequently on the right side than on the left was attributable to the fact that most examiners were right handed, and the tendency was for the examining finger to be brought to the right side of the patient and that possibly ulceration of the cervix might have taken up the infection thus —Mr C Y PEARSON considered that the operation was justified whether there was thrombosis present or not On anatomical grounds it was to be expected that the uterine vessels would be open to infection more than the ovarian veins With regard to the technique, before proceeding to follow up the veins the first step should be to expose the ovarian vein where it entered the vena cava or left renal vein and divide it It was, he thought, important to start as far away as possible from the focus of infection There was a great danger of embolism if the general circulation was not shut off before attacking the septic parts He had found vaccines of little use in cases of acute infection, but he had seen serum do good —Dr R J ROWLETTE spoke of the generally unsatisfactory results of vaccines in thrombosis He thought that the reason was that in nearly every case of thrombosis there was a mixed infection He had recently, however, had two cases where vaccine was the only treatment adopted and was successful One was a case of acute puerperal melancholia and pyæmia, and an autogenous staphylococcus aureus vaccine was given with quite satisfactory results The second case was much more serious, and one in which he thought at first that any treatment would be hopeless There was thrombosis, and there were infarcts in the lungs, and in the opinion of those in charge of the case the patient was hopelessly ill when the treatment was started A growth of streptococci was obtained from the venous blood and a vaccine prepared. The temperature and pulse came down step by step and the general condition improved In a week the patient was convalescent, and though an attack of pleurisy supervened she recovered completely It was one of the worst cases of puerperal sepsis he had ever seen —Dr PUREFOY considered that Dr Jellett was correct in stating that 60 or 70 per cent did not recover The most interesting case was that in which the ovarian artery showed marked degenerative changes This had not been previously recorded Two recent writers mentioned three cases of the kind in which operation was carried out without success and they laid down the principle that where organisms were found only during rigor, operation was indicated and would probably be successful, but where the organisms were found at any other time operation was not indicated —Dr JELLETT in reply, recognised that the question of operation in these cases was still one for very grave discussion but that in cases such as those he brought forward it was positively indicated

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 18th, Dr. Morgan Dockrell presiding.—Dr. J. L. Bunch showed a case of a man, aged 50, with a Marked Symmetrical Dupuytren's Contraction of the Fingers which was remarkably hereditary, as the same condition had existed in his family for the past 300 years. It commenced about the age of 25 and reached the maximum at about 40. His father, grandfather, and so on, had had exactly the same lesions, and his two sons both had it—one aged 26 was just starting.—Dr. Bunch also showed the case of an old woman with some Scarring on the Nose and a small Tumour on the Back of the Neck—the former either tubercular or syphilitic and the latter a cyst.—The President, Mr. D. Vinrace, Dr. R. Prosser White, Dr. W. Griffith, Dr. W. Knowsley Sibley, Dr. W. W. Wells, and Dr. J. L. Phibbs discussed the cases.—The President showed a case of a man with some Old-standing Specific Scars and Depressions on the Scalp, the severity of which he considered was associated with a tubercular soil.—Dr. Griffith showed a man who presented a Diffuse Area of Livid Red Skin, involving the whole of the bathing-drawers area. The Wassermann reaction was negative, and histologically it presented the condition of parakeratosis, and he considered it one of the erythrodermias.—Dr. Sibley showed a case of advanced Leucoderma in a girl 18 years of age. The treatment consisted in increasing the pigment in the pale areas by local hyperæmia and removing it from the pigmented ones by lotions of perchloride of mercury applied by ionisation.—Dr. Sibley also showed a case of extensive Scrofuloderma in a girl aged 9; some of the lupus lesions he was treating with ether carbon dioxide, and others with ionisation of sulphate of zinc solution.—Dr. Prosser White read a paper on the Sociological Aspects of Syphilis, in which the point was emphasised that the first thing to enable a disease to be controlled was to know its extent. In Scandinavian countries compulsory notification of syphilis was enforced, its seriousness only too well recognised, and rational attempts were made to check it. It was the opinion of many that venereal disease was more disastrous to the health of a country than either tubercle or alcohol, and he compared the apathy towards the former with the public and private interest in the two latter questions. Again, syphilis was much more easily controlled by treatment than either of these. Modern intensive treatment by healing up the early and secondary lesions of syphilis make this treatment a valuable and prophylactic measure. The continent, America, and our colonies were demanding free treatment by experts. How long must we delay?—The President, Dr. Sibley, Mr. Vinrace, Dr. Griffith, and Dr. E. G. Reeve joined in the discussion.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Liverpool on Feb. 21st, Dr. W. E. Fothergill (Manchester), the President, being in the chair.—Dr. J. E. Gemmell (Liverpool) showed a specimen in which the vermiform appendix was adherent to the right Fallopian tube. The left appendage had formed a tubo-ovarian abscess. The right tube and appendix were so intimately connected, and the history of two abortive attacks of appendicitis so definite, that the primary mischief was probably appendicular.—Dr. T. B. Grimsdale (Liverpool) showed a specimen of Carcinoma of the Body of the Uterus from a patient whose ovaries were removed three years previously and which were reported upon at the time as being suspicious of malignancy, though not definite.—Dr. Gemmell showed two cases of Ectopic Gestation. 1. A secondary abdominal pregnancy with a seven months' fœtus and with a very clearly defined history. 2. An isthmal pregnancy in the left tube of six weeks' duration, which
and ed very severe intraperitoneal hæmorrhage. The abdo-
opht l ostium was free from blood clot or appearance of drip,
rienc o rupture could be found on the tube.—Dr. W. Fletcher
very w (Manchester) showed a Fibromyoma of the Uterus
colc plicated by an abscess in the right broad ligament
usef- which a pure culture of streptococci was obtained.
Time years previously the patient had a septic mis-
Dr. S re, but had had good health from that time until
operat dden onset of th [illegible] ammation.—Dr. W. Blair
with the erpool) crate of silver in of Superinvolution of
he had used none for 16 years. He re. The patient was
and had never lost an eye.—Mr. W. The birth of her first
tion to the omission of urotropine, wn a few weeks and the thyroid enlarged, all the symptoms of exophthalmic goitre developing in a short time. The uterus was very small, the cavity being only 2 inches in length. The case was of great interest owing to the fact that superinvolution appeared more likely to follow deficient thyroid secretion than the reverse.—Dr. Catherine Chisholm (Manchester) read a paper on the Nature and Extent of Menstrual Molimina during Adolescence, based upon the menstrual history of 500 girls attending school between the ages of 10 and 20. The majority, 58·6 per cent., experienced no discomfort. In 33·6 per cent. the pain was slight and often only occasional: those suffering discomfort experienced rather local symptoms than general disturbance, such as headache or general lassitude. The tendency to disturbance did not appear affected by the age of onset. Severe cases of pain, so far as there was opportunity for examination, were associated with local abnormalities. The largest number of cases with discomfort and pain occurred among anæmic girls with profuse loss. The best physically developed girls showed over 70 per cent. without any disturbance and with no cases of pain which incapacitated them from work. Hard mental and physical work under healthy conditions did not appear to affect the freedom from menstrual disturbance.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 12th, Dr. Walter C. Swayne, the President, being in the chair.—Dr. F. H. Edgeworth, in opening a discussion on the Treatment of Chronic Constipation, said that constipation might exist with a daily opening of the bowels. Delay in passage of the intestinal contents over the normal 40 hours could be easily shown by the administration of charcoal biscuits to colour the fæces. He had found that salines were particularly efficient in patients with high blood pressure and that while cascara to retain its effects must be given in increasing doses, aloes need not. In cases combined with neurosis he had found bromides efficient, and in cases in which the chief difficulty was emptying the lower bowel enemata had to be used, glycerine being unsuitable for constant use owing to its injurious action on the mucous membrane.—Mr. T. Carwardine said that he had been able to cure several cases by the division of adhesions in the ileo-cæcal region, but he was doubtful as to the advisability of performing such extensive operations as removal of the colon.—Mr. F. G. Bergin pointed out that by locating the situation in which delay occurred a bismuth X ray examination was of great help towards correct treatment.—Dr. Bertram M. H. Rogers regarded constipation in children and infants as the result of bad habits, combined with a deficiency of fats in the food, and particularly of water.—Dr. J. Michell Clarke regarded neglect in childhood as the most frequent cause, and insisted on a routine rectal examination in cases of constipation.—Mr. Lansdown had once been asked to remove the colon to cure a case of constipation, but had given relief by removal of enlarged ovaries impacted in the pelvis.—Mr. J. L. Firth had treated a chronic case by appendicostomy and lavage, but had been compelled later to remove the colon.

OXFORD MEDICAL SOCIETY.—A meeting of this society was held in the Radcliffe Infirmary on Feb. 14th, Dr. W. Duigan, the President, being in the chair.—Mr. A. P. Dodds-Parker showed the following series of cases of Fracture treated by modern methods: 1. Fracture of upper end of humerus in a young man, treated by a Lane plate; perfect result. 2. Fracture of olecranon in a woman, treated by wiring; very good result. 3. Fracture of olecranon in a man, treated by wiring; very good result. 4. Fractured femur in a boy, treated by a Hodgen's splint; perfect result, no shortening. 5. Fractured tibia in a man, treated by a Lane plate; there was delayed union and much callus, but a good result. 6. Fractured humerus of the middle third in a man, treated by a Lane plate; good result. 7. Fractured tibia and fibula in a man, treated by a Lane plate for non-union; good result. 8. Fractured patella in a man, treated by a wire and a Lane plate; good position of the patella, and walks well. 9. Fractured ulna and radius in a man, treated by a Lane plate; good result. All the cases were illustrated by X ray photographs before and after, taken and demonstrated by Mr. R. H. H. Sankey.—Dr. W. J. Turrell then showed a case of Lupus of the Cheek in a woman who had had no treatment for 12 years, whom he was in process of treating by diathermy. Five applications had been given and the effects of various intensities of the treatment were demonstrated in a piece of fresh liver tissue.—Dr. W. Collier related the histories of two unusual cases of Diphtheria: the first in a woman, aged 28, who entered the Radcliffe Infirmary for chorea of pregnancy. The patient became maniacal, and as the child was viable labour was induced. The patient recovered from this, but had a parotid abscess in which staphylococci were formed. Later, six weeks after her entry into hospital, her voice became husky, there was respiratory stridor, and she died. At the post-mortem examination a diphtheritic membrane in which B. diphtheriæ was found extended from the vocal cords to below the bifurcation of the trachea. The second case was a nurse who had been in attendance on a very bad case of septicæmia, the nature of which had not been exactly determined. The patient subsequent to leaving the case developed a high temperature, great cyanosis, and rapid failure of strength. There were a few râles in the chest and some sputum in which B. diphtheriæ and numerous cocci were found but none of the ordinary clinical signs of diphtheria. Antidiphtheritic serum was without effect. At the post-mortem examination diphtheria bacilli were found in the mucus of the trachea and smaller bronchioles. The lungs were œdematous and partly solid, but did not sink in water; no other lesions were found.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 28th, Dr. J. F. Dobson, the President, being in the chair.—Dr. W. Cuthbert Morton read a paper on the Present Crisis in Anatomical Nomenclature. The Basel nomenclature, which was promulgated by the German-speaking anatomists in 1895, had made such progress in America and the Colonies, and even in Britain, that the Anatomical Society had been forced to discuss its adoption, not merely as an international code, but for ordinary use. There were grave objections to the Basel nomenclature. It did not claim to be more than a list of names acceptable to German-speaking anatomists, and requiring to be submitted to anatomists speaking other languages. In spite of much that was excellent, the principles on which it was based were not scientific, and it did not sufficiently regard the needs of medicine and surgery. Moreover, in some respects it was not up to date. Dr. Morton, therefore, pleaded for a commission of British anatomists and teachers of final subjects to prepare a complete British nomenclature as far as possible in harmony with the Basel nomenclature. An international conference might then be called to evolve a truly international nomenclature. He rapidly reviewed the principles upon which such a nomenclature should be based, and sketched out the manner in which these principles might be applied to the abdominal cavity and its contents.—Mr. J. Stewart showed specimens from six recent abdominal operations illustrating the difficulties of diagnosis.—Mr. Alexander Sharp showed a specimen of Squamous-celled Carcinoma of the Larynx.—Mr. G. Constable Hayes showed a specimen (with photograph) of a large Osteoma which caused secondary mastoid disease in a case of suppurative otitis media.—Mr. Walter Thompson exhibited a large Malignant Tumour of the Bladder which had been successfully removed by a wide operation. Recurrence of the growth had, however, taken place after an interval.—Dr. C. W. Vining showed a case of Hysterical Stupor which was improving under treatment.—Mr. H. Littlewood showed a specimen of Tuberculous Mesenteric Glands which he had removed by operation. There had been a sinus communicating with the surface, and he had removed the sinus, glands, mesentery, and associated loop of bowel, performing an end to end anastomosis. The patient had made a good recovery.—Cases and specimens were also shown by Dr. J. B. Hellier, Mr. L. A. Rowden, Mr. E. W. Bain, and Dr. M. J. Stewart.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of the society was held on Feb. 18th.—A discussion on Puerperal Eclampsia was introduced by Dr. E. W. Sharp. He defined the term, insisting that the "fit" was a common symptom, and not the whole disease. This was a toxæmia in which certain well-marked pre-eclamptic manifestations, notably headache, disturbance of vision, swelling of face and of extremities, and diminution in amount of urine, were commonly observed. The condition was quite distinct from uræmia and albuminuria, and the toxin was not microbic. It had been shown to be akin to certain venoms in that it contained the same five elements, thrombotic, hæmolytic, hæmagglutinative, endotheliolytic, and neurotoxic. Although eclampsia was apt to recur in subsequent pregnancies it did not result in permanent nephritis. It occurred in sterile molar pregnancies as well as in normal ones. It was believed by some to be due to imperfect balance of the internal secretions, those of the suprarenal and pituitary being increased, as evidenced by high blood pressure, a prominent feature of the disease, and that of the thyroid diminished. The retention of the poisonous products was, according to authorities, favoured by nitrogenous food, bile, intestinal putrefaction, and toxins were due to metabolism of maternal and fœtal cells. Prophylaxis was of the greatest importance in preventing the eclamptic attacks; when premonitory symptoms occurred rest, a strict milk and vegetarian diet, and a daily action of the bowels were essential. When the attacks occurred Tweedy's methods were to be followed. The avoidance of external stimuli, the use of morphia, elimination of toxins by lavage of stomach and colon were important measures. A concentrated solution of magnesium sulphate should be left in the stomach and a pint of bicarbonate solution in the rectum. Attempts should be made to lower the blood pressure; in many cases venesection was valuable, as was veratrum viride or nitro-glycerine. Where intravenous infusion became necessary bicarbonate solution was better than normal saline. If swallowing were possible frequent draughts of water should be given, but no food. Diaphoresis was not recommended, and lumbar puncture was useless. Dr. Sharp was not in favour of inducing labour. When it occurred it should be assisted, but not forced, natural delivery being preferable to artificial methods. Accouchement forcé was not good practice. When the os would not dilate and pains were strong Cæsarean section was greatly to be preferred.

Reviews and Notices of Books.

Manual of Human Embryology. Edited by FRANZ KEIBEL, Professor in the University of Freiburg i. Br.; and FRANKLIN P. MALL, Professor of Anatomy in the Johns Hopkins University, Baltimore, U.S.A. Vol. II. With 658 illustrations. London and Philadelphia: J. B. Lippincott Company. 1912. Pp. 1032. Price 30*s.* net.

EVERYONE who has to study embryology from whatever aspect—and there are many—can but be deeply grateful to those writers who have contributed to make this work so great a success. It is a compendium of practically all that is known regarding the development of the various organs of the human body. Moreover, the literature is given so copiously that whatever is not fully set forth in the text can easily be traced in the original papers. The illustrations are a most commendable feature of an undertaking of very great scope. The following are the subjects the development of which is dealt with in succession:—The Nervous System, by G. L. Streeter; Chromaffin Organs and Suprarenal Capsules, by E. Zuckerkandl; Sense Organs, by F. Keibel; Digestive Tract and Respiratory Organs, by O. Grosser, F. T. Lewis, and J. P. McMurrich. It should be noted that to Professor McMurrich is due the excellent translation of the chapters by Keibel, Felix, Tandler, and Zuckerkandl. C. S. Minot, H. M. Evans, J. Tandler, and F. R. Sabin are responsible for the chapter on the Blood, the Vascular System, and the Spleen, while W. Felix deals with the Urogenital Organs. Professor Keibel, at the conclusion of the volume, devotes a short chapter to the Inter-relation of the Various Developmental Processes. The subject index is particularly full. There is also an index of authors.

The story of the development of the nervous system is a masterly section and might well be reprinted as a separate monograph for those who are specially interested in this subject. It has also a particular interest for physiologists, apart altogether from the morphological side which is dealt with in a text-book on embryology. The experiments of Harrison carried out on amphibian larvæ are of the utmost importance in regard to the development, and therefore to the regeneration, of nerve fibres, for he showed that no peripheral nerves would develop in an embryo in which the nerve centres had been destroyed. Moreover, axis-cylinders will develop and extend out in the surrounding tissues in the normal way, and will reach their normal length where the sheath cells of Schwann have been eliminated. Nerve fibres also, when the environment is modified, may under certain conditions establish completely foreign connexions. The vast importance of what Ranvier pointed out as the method of "pushing"—i e., as regards growth—is well illustrated both in the text and by the reproduction of some of Harrison's figures. It is an immense stride to be able to grow ganglion cells outside the body in such an organic medium as clotted lymph, where all contributions on the part of other living tissues are eliminated. Indeed, by direct inspection, the growth of a nerve fibre from a ganglion cell as it develops hour by hour is an objective reality. As to the "myelinisation" of nerve fibres, at least where human material is concerned, there is no adequate description yet available. The pig and sheep so far have formed the basis of our knowledge on this subject. We commend to the consideration of neurologists and embryologists the diagrams showing the reconstructions of parts of the nervous system obtained by a careful study of sections of embryos at different ages.

As to those small but wonderfully potent organs grouped under the rather obscure title "chromaffin organs," no better choice could have been made to explain their development from their original "anlagen" than Professor Zuckerkandl, of Vienna. Professor Keibel's account of the sense organs is particularly painstaking and full of detail, as is to be expected from one who himself has contributed so largely to this subject. The illustrations are particularly well reproduced. Especially interesting is the account of the progression and retrogression of certain vessels in connexion with the formation of the eye. Apart altogether from the morphology of the digestive system, the histologist will find much to interest him in the chapter on the development of the digestive tract, more especially as regards ciliated epithelium. Every teacher who has to set forth to his students the development of the intestinal canal should take cognisance of the models referred to in the Harvard collection, illustrations of some of which are given by F. T. Lewis. When we turn to the chapter on the blood we are told by Professor Minot that the scientific interpretation of the theme, as viewed from the clinical standpoint, leaves much to be wished. According to Professor Minot, to clinical writings we owe a confusing nomenclature of the blood corpuscles which sins against every morphological principle. We are glad to read such a comprehensive account of the all-too-much-neglected lymphatic system—a system so easily demonstrated to the student, at least as regards its main tracks. We particularly commend Miss Sabin's contribution on this subject to surgeons and physicians.

We have said enough to show how interesting and directly practical is this comprehensive and up-to-date contribution to the ever-advancing subject of embryology, and in saying so we wish to thank the authors as well as the publishers for the successful issue of their joint enterprise.

Patologia e Terapia Chirurgica dei Calcoli della Vescica Urinaria. By Dott. Mario Schiavoni, Professor of Surgical Pathology in the University of Padua. With a Preface by Professor D. B. Roncali. With 134 illustrations. Turin: Unione Tipografico-Editrice. 1912. Pp. 592. Price 15 lire.

Professor Schiavoni has limited the scope of his extensive treatise to calculus of the bladder, and the work, if only owing to its size, will at once occupy a prominent place in modern literature on this subject. The physical characteristics of calculi are first dealt with, and examples and woodcuts are given of unusual forms. Spontaneous fragmentation is described at length. Various theories of its causation are discussed by the author, who is of opinion that the explanation is to be found in segmentation of the calculus, that all the theories afford a true solution in some circumstances but not in others, and that further actual experiments on fresh, recently extracted calculi are necessary.

Chapters are devoted to the structure of calculi and the various foreign bodies which may cause their formation. Urinary sediments and the chemical constituents of calculi are investigated, the researches of Golding-Bird, Marcet, Henry and B. Smith being largely quoted. The chemistry of these constituents is fully dealt with, as is also the technique for investigating them. The etiology of cystolithiasis is the subject of two chapters, and the part played by heredity, age, sex, occupation, climate, and food, also its relation to other conditions such as bilharzia, echinococcus, actinomycosis, gout, renal infarcts, osteomalacia, and phosphaturia. Stress is laid on the greater frequency of oxalate of lime calculi in children; the influence of poverty and squalor which compel a diet largely vegetable is alluded to as well as the use of acid and fermented beverages containing a considerable proportion of oxalic acid. Attention is also drawn to Ebstein's theory of the frequency and importance of renal infarcts in children. The part played by diathesis is not so much a predisposition to the formation of calculi as a contributory to their chemical constituents. An analysis is given of all the theories of calculus formation, from that of Mariano Santo in the fifteenth century to the present day, including those of Heller, Ultzmann, Meckel, and Ebstein. The author's own opinion is that the origin both of primary acid and alkaline lithiasis may be either renal or vesical, the former being more usual; secondary lithiasis, however, has more frequently its origin in the bladder.

A very interesting group of subjects is well treated in Chapter IX., dealing with the pathological anatomy of cystolithiasis, in which are minutely described the anatomical changes in the urinary bladder when affected by stone. It includes bacteriuria, acute and chronic cystitis, pericystitis and leucoplasia, which are treated at much greater length than in most works on diseases of the bladder, vesical ulceration and fistula, tuberculous and bilharzic cystitis, diverticula and hernia; the relation of neoplasms to calculi is also adequately discussed. In the part dealing with the symptoms and diagnosis of calculus, Guyon's sound is recommended for exploration. Radiography is advocated only for children and as a supplementary method, since absence of any shadow excludes the presence of only oxalic and phosphatic calculi. As regards prognosis, the author draws attention to the gravity of stone as a complication of pregnancy, for it possibly induces rupture of the uterus; he does not, however, give any statistics or cases in support of this view.

An interesting chapter is that on the history of the methods of cutting for stone from the remote times of surgery to the present day, methods known to the Indians, as shown by the *Ayur-Veda,* but probably unknown to Egyptian and Jewish surgery. After an introductory chapter on the anatomy of the perineum, amply illustrated by woodcuts after Testut, perineal cystotomy is described, as well as the operations of median and lateral lithotomy as performed by Civiale, Dupuytren, Nélaton, Albarran, Montenovesi, Sanson, and others. A critical comparison, written with excellent judgment and impartiality, sums up in favour of Montenovesi's technique. There is a clear and concise description of perineal cystotomy, profusely illustrated, and a chapter on after-treatment and complications such as incontinence of urine and complete sterility. In two chapters are described the suprapubic operation, both by longitudinal and the transverse incision of Ledran, and the modifications introduced by Legueu, Vidal de Cassis, and Langenbuch; of these the author considers the last two incontestably the best. Drawing a comparison between the suprapubic and perineal operations, he gives the preference to the former as offering the greater advantages in dealing with large stones. Lithotripsy and litholapaxy are described, a number of lithotrites and accessory apparatus being figured. On the question of local *versus* general anæsthesia the author advises for obtaining insensibility of the bladder irrigation with 5 per cent. antipyrin, or 1 per cent. stovaine in quantities of 50 c.c. Dolbeau's perineal lithotripsy is described in a separate chapter; the mortality being the same as that of ordinary lithotrity, the author considers that it offers advantages in crushing large stones. A comparison is drawn between lithotrity, perineal and suprapubic lithotomy, and a table is given showing the relative mortality of each in the hands of continental operators. The average works out in favour of perineal lithotomy. Professor Schiavoni, without laying too much importance on these statistics, considers that they establish the superiority of perineal lithotomy, notwithstanding the difficulties of its technique and the danger of wounding vessels, and do not justify the present prevalent neglect and distrust of this operation. He maintains that the suprapubic method is preferable on the whole, but that this furnishes no adequate reason for banishing the perineal operation, which when well performed is eminently suitable for small calculi and for cases of chronic cystitis, and, moreover, can be followed by perineal lithotripsy which gives *the best results in unfavourable circumstances and has a* mortality less than that of lithotrity alone.

We have nothing but praise for the way in which the author has carried out this important work, while the type and woodcuts are admirable.

Monaco and Monte Carlo. By ADOLPHE SMITH. With eight reproductions in colours from drawings by CHARLES MARESCO PEARCE, and with 48 illustrations in black and white. London: Grant Richards Co. Philadelphia: J. B. Lippincott Co. 1912. Pp. 477. Price 15*s.* net.

To most people, including the small proportion of English who go there once or oftener in their lives, Monaco and Monte Carlo stand only for pleasure, and especially the form of pleasure that is typified by roulette and trente-et-quarante. It is well, therefore, that they should learn that the little Principality fosters interests of a beneficent character to a degree so out of proportion to its size. The larger nations, which affect to despise it as a "sink of iniquity," living by plundering its visitors, may feel somewhat shamefaced to know that in this small Principality more money, proportionately speaking, is spent on local government, on public works, on the promotion of original research, and on the arts and sciences, than is the case in any other part of the world. We have a right, all of us, to our views as to the way in which the money is got, but there cannot be two opinions as to the way it is spent. This more serious side of Monaco has recently been brought forward in Mr. Adolphe Smith's fascinating book, which covers the entire field of knowledge concerning the Principality of Monaco and the town of Monte Carlo Individual books and reports, it is true, dealing with the separate subjects of historical, archæological, artistic, and especially scientific interest, connected with or assiduously cultivated there, have been published, but these are essentially technical works intended for technical readers especially interested in the particular subjects and not for general reading. Mr. Adolphe Smith, we believe, is the first author to bring together within the compass of one book the historic, and even the prehistoric, data of this ancient Principality, the general and scientific characteristics and attainments of its present reigning prince, a bird's-eye view of the work in oceanography, anthropology, and archæology fostered and pursued by him in person and of the political and social economy of the Principality, its sanitary and industrial conditions, its cultivation of the fine arts, and its increasingly prominent place as the home of international congresses, as well as the one feature for which it has hitherto mainly stood in the world at large—viz., its facilities for gambling. The book is divided into two parts, the first of which deals with the historical, scientific, economic, and medical aspects of the Principality; the second is devoted to the subject of gambling generally, its development at spas, and its culmination at Monte Carlo.

The fortunes of the Grimaldis, to which ancient race Prince Albert, the reigning Prince of Monaco, belongs, form a romance that is fascinating reading to anyone with a taste for history. The politics and internal economy of the sovereignty, though it is so small a one, are not negligible, for this little state has served as a laboratory where practical legislative and other experiments have been and are being made, that serve as educational demonstrations for the benefit of many nations. With the principles and policy of a Prince, also, who, while inheriting upwards of seventeen hereditary titles and dignities, yet takes his greatest pride in those that mark the distinction he has won for himself in the realms of scientific investigation, we must needs be interested, and it is around *Albert of Monaco, Membre de l'Institut, that the* interest of the first part of the book mainly centres. A practical sailor, he has devoted the greater part of his industry to furthering the development of oceanography. It was he who established and endowed the Museum and Institute of Oceanography, the foundation stone of which was laid in Monaco on April 25th, 1899, and who later, in 1906, contributed to the University of Paris a sum which formed a considerable part of the capital required by it to purchase the land needed by the Sorbonne for its extension. In return the University granted him a site on part of the new estate on which was erected the Oceanographic Institute, founded by him and endowed with a working capital of 4,000,000 francs. This institute is devoted to the study of the geography, geology, hydrology, biology, zoology, and bacteriology of the sea; and to it has also been given the ownership of the before-mentioned Oceanographic Museum at Monaco, with its laboratories, collections, and aquariums. This institute is an autonomous and independent establishment in full possession of civil rights. In the museum at Monaco are stored the results of 24 different maritime explorations made by the Prince himself up to the beginning of 1912, and extending from Spitzbergen to Cape Verde Islands; and vertically upwards with balloons to a height of 43,400 feet, and downwards to a depth of 23,000 feet below the sea surface. The author describes with clearness and detail the treasures of the museum, as well as the anthropological and other scientific researches made and fostered by the Prince.

The portion of Mr. Smith's book that will undoubtedly interest medical men more directly is the chapter on Monaco, Medical and Sanitary. A discussion of its climate, drainage, slaughtering, water-supply, and hospital (described and illustrated by the author in THE LANCET[1] at the time of its inauguration) concludes the first part of the book. An powers of regeneration and compensation, though we see evidences of it constantly in practice, and Dr. Walsh enters an eloquent plea for the desirability of keeping the patient with chronic organic disease in just as good condition of body and favourable condition of mind as possible for a prolonged period. He emphasises the truth, with which every physician who has to deal with chronic cases is familiar, that these patients suffer from the serious burden of realising that their condition is incurable. But while nothing can be done for the disease itself, much, very much, can be done for the patient. If symptoms extraneous to the underlying disease can be assuaged, it will not surprise that the patient should think himself bettered; life will seem again to have something in it worth living for, and it would be hard to persuade him that some change has not come over his disease.

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[1] THE LANCET, May 6th (p. 1229) and 20th (p. 1384), 1911.

No doubt these truths are, in a sense, a commonplace to the successful practitioner, but Dr. Walsh has a fresh and stimulating way of retelling them which we find very attractive. One of the most telling chapters in the book deals with the individual patient, and there are few who will not find helpful and instructive hints in these closely packed pages. An important element in diagnosis and treatment is detailed knowledge of the patient's ways and modes of thought. As Dr. Walsh says, every motive and every action of the day must be scrutinised; in fact, it is a good plan to begin with the getting up in the morning and to work steadily through the patient's doings during his waking life. Dr. Walsh's examination of these details is tempered with insight and a shrewd knowledge of human nature. But we are not sure that he has not allowed himself to be influenced by the accepted facts of the control of the mind over the bodily functions to such an extent that he occasionally minimises the genuine physical effect of a particular line of treatment. Thus: "For some years after the discovery of radium we were inclined to think that it must have some wonderful application in medicine and in surgery, and we actually secured many good results until its suggestive value wore off." This is not, we consider, a complete explanation of the facts. Dr. Walsh declares that at Lourdes "there is more than natural power manifest." In view of the fact that many hold a contrary opinion, the details of even one case, independently investigated under rigorous scientific conditions by a competent neurologist, such as Dr. Walsh, would be worth much more than a generalisation of this sort. Reference is made to the recent work of Dr. H. Head and Dr. G. M. Holmes on the optic thalamus, but we consider that Dr. Walsh's remark that they have shown "certain definite and very marked manifestations of *dualism of disposition* (italics our own) consequent upon lesions in the optic thalamus" attributes too much to their investigation and is rather a misreading of their position.

We can cordially recommend this book as a contribution to the subject of psychotherapy, one of the few which is characterised both by knowledge and by a due exercise of the critical faculty. Although it is a long book it is never dull or prosy: the aptness of the illustrations and a pleasant, readable style are calculated to appeal to student and practitioner alike.

Lehrbuch der Augenheilkunde in der Form klinischer Besprechungen. By Dr. PAUL RÖMER, Professor of Ophthalmology, Greifswald. Berlin and Vienna: Urban and Schwarzenberg. 1913. Pp. 380. Price 8 marks, or 9·60 kronen.

THE second edition of Römer's "Text-book of Ophthalmology" has followed the first, published in 1910, quickly. In the meantime we have had to review the first volume of the English translation. The opportunity has been taken in this edition of greatly improving the style and convenience of the book. It is now issued in two volumes. Much of the verbal diffuseness consequent upon the lecture form has been eliminated, so that it reads much more easily, and the size has been reduced by 200 pages without loss of any important material. Facility of reference has been increased by the excellent plan of marginal notes on the contents of the paragraphs. The general arrangement of the chapters is now more logical. The illustrations in the text now number 268, as compared with 186 in the first edition. Many have been reduced in size, some not without a certain loss of important detail. The coloured plates have been increased to 32, as compared with 13; they include figures of external diseases, ophthalmoscopic conditions, and microscopical specimens, and are for the most part very good. We have not noted any material change in the matter of the text. We can recommend the book warmly, especially as some of the defects to which we drew attention have now been removed.

Mind and its Disorders. A Text-book for Students and Practitioners. By W. H. B. STODDART, M.D. Lond., F.R.C.P. Lond. Second edition. London: H. K. Lewis. 1912. Pp. 518. Price 12*s.* 6*d.* net.

THIS is the second edition of Dr. Stoddart's work on insanity. Some alteration has apparently been found necessary in almost every chapter owing to the amount of research work that has been performed in the field of psychiatry since the first appearance of the book. The net result has not, perhaps, been large or at all striking except in the domain of morbid psychology. A chapter on the psychopathology of the Freudian school now appears, and shortly, though adequately, sets forth its outstanding concepts. Part I. of the work consists of a hundred pages of normal psychology, and, whilst interesting, largely serves to illustrate the slenderness of the tie between this subject and the practice of psychiatry. Part II. is devoted to the psychology of the insane, and is largely an account of the general symptomatology of insanity; while Part III. is concerned with the several groups of symptoms which it has been found convenient to separate and to name by various appellations.

The favourable general estimate which we formed in reviewing the first edition we can now with pleasure endorse.

Veterinary Toxicology. By G. D. LANDER, D.Sc., F.I.C., Professor of Chemistry and Toxicology in the Royal Veterinary College. With 39 illustrations. London: Baillière, Tindall, and Cox. 1912. Pp. 312. Price 7*s.* 6*d.* net.

FOR a long time there has been distinctly needed a work on toxicology dealing with the subject from a clinical standpoint as applied to the domesticated animals, and the veterinary expert of the present day owes a debt of gratitude to Professor Lander for the trouble he has taken to place this book before the profession.

All the common poisons are dealt with, being classified under the respective headings of mineral (inorganic), organic and drugs, and poisonous plants, the latter including several indigenous to South Africa. The arrangement deals with the causes, symptoms manifested, treatment, post-mortem appearances, and chemical diagnosis; and, considering the vast amount of literature which the author has had to wade through, the result is put not only clearly but briefly—sometimes rather too briefly. There is no doubt that when the book comes to a second edition much of the matter will be elaborated, especially the paragraphs which deal with symptoms and treatment. The veterinary practitioner has so many classes of patient, and so many different digestive systems to deal with, that generalised statements cannot possibly be made to fit all. Methods of treatment must be described in detail, for when applied, for example, to a dog, there are many observations to be made which would not be relevant in the case of a cow or horse In a book of this kind it is absolutely necessary to combine the experience of many practitioners with the results of laboratory work We think that on its issue there is certain to be an interest awakened in veterinary toxicology, and this will cause many specific details which are not in this present volume to be reported for publication in the future The work is needed and is good, but it would have been better had it not been so generalised, especially in regard to the sections upon symptoms and treatment, to which the practitioner will naturally turn first when in doubt

LIBRARY TABLE

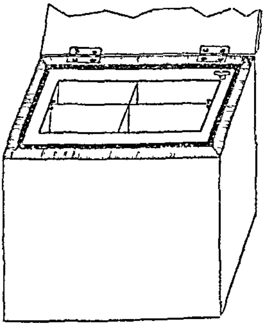
The Care of the Body By R S WOODWORTH, Professor of Psychology in Columbia University New York · The Macmillan Co 1912 Pp 359 Price 6*s* 6*d* net —We learn from the author's preface that "this book is intended chiefly for the young man, and is founded on the belief that an intelligent man, without technical knowledge of medicine, and without excessive attention to the care of his health, can still do much to keep himself in good condition " It is, therefore, a popular work on physiology, and as such can do widespread harm if it is not circumspectly as well as accurately written In the author's words, it "enters not too deeply into some of the important topics of physiology " On the whole, in our opinion, the book will prove useful to those for whom it is written, though occasionally Professor Woodworth, in his anxiety not to enter too deeply into physiology, has fallen into the opposite error, and writes in too superficial a manner Thus we think that the statement on p 76, that starch continues to be acted upon by the saliva in the stomach, is too positive a statement Its digestion is certainly delayed, and quite probably is arrested His first chapter, "The Science of Health," is eminently practical, and is an expansion of his remark on p 10, "If there is any one general rule which is useful in the care of health—call it principle, rather—it is to avoid excesses," but he is also careful to point out that what is moderate for one person may be excessive for another After the physiological chapters Professor Woodworth considers in a practical fashion such subjects as bodily heat, in which we are glad to see a word of warning against the foolish idea "that you should never wear an overcoat in the house, or you will not 'feel the good of it' when you go out " The proper use and care of the eye the ear, the muscles, the avoidance of causes leading to neurasthenia, and the judicious use of work, rest, and recreation are next dealt with, while in the three final chapters indulgences (e g , stimulants and tobacco), the cycle of life, and disease are considered In the last chapter we note that the credit for definitely proving that anthrax is due to the bacillus anthracis is given to Koch It is true that Koch was the first to work out the life history of the bacillus and to cultivate it outside the body, but we think that Davaine, who saw the bacillus in 1850, and in 1873 positively asserted that the "rods" were the cause of anthrax, should have been mentioned also

Guide to the Medical Schools and Teaching of Paris —This practical and illustrated guide is published for the modest sum of 50 centimes by Masson et Cie on behalf of *La Presse Médicale* There is a map of Paris attached, on which all the hospitals and schools that interest the medical profession are printed in red The date and place of the principal lectures for the year are given, as well as practical details concerning every class and laboratory available to the student, whether French or foreign We are reminded that not only are all the French clinics open to foreign medical men, but that there are in Paris clinics held in various foreign languages Thus we have the Anglo-American Medical Society with the Hertford British Hospital, founded by Sir Richard Wallace, 72, Rue de Villiers, and the American Hospital, 44, Rue Chauveau, Neuilly Then for the Latin languages, notably Spanish, there is *l'Union Médicale Franco-Ibero Américaine*, more briefly known as *l Umfia*, which has its headquarters at 18, Avenue Trudaine Medical men of the German language forgather at 120, Boulevard Saint Germain, and those of the Russian language at 4, Place Clichy All are welcome to profit by the medical teaching for which Paris has acquired world-wide renown This little guide gives us many details and pictures of the hospitals, laboratories, and institutions that are at the disposal of the medical student

New Inventions.

A PORTABLE RADIATOR FOR BLOOD CULTIVATIONS

IN cases of septicæmia in which a cultivation from the blood (basilic vein) must be made for the proof of a circulating organism there is a point in the technique which has not received the attention it deserves I refer to the desirability of keeping the broth tubes (inoculated at the bedside with the blood) at or nearly at blood heat from the moment of withdrawal until the incubator is reached This time in practice varies from a few minutes to several hours Human blood is bactericidal, and if in addition a big fall in the temperature occurs in the blood cultures an additional factor is allowed which is adverse to bacterial growth This defect in procedure was first pointed out to me some years ago by Dr H E B Bruce Porter, and reviewing the cultivations I have done under various conditions for the last seven years, in no case did I obtain so rapid or copious a growth of streptococci as in a case undertaken for him, and in that case the patient was lying a few yards from the incubator, and of course the time for cooling was very brief In the books one finds recommendations to carry one's tubes in wool warmed before a fire, or in one's coat pockets, or, again, a Thermos flask may be utilised Since the means of warming should be obtained in a rapid and simple way, I have designed and tested the appliance shown in the accompanying illustration The apparatus is a felt-lined wood case 8 by 8 by 4½ inches occupied by a metal container, divided into compartments by a sliding partition, and furnished with a buffer of wool or corrugated paper to prevent fracture of tubes on its metal floor The interior takes 16 tubes of culture media, and the box can be carried in a culture bag



The best test gave the following result By means of a funnel, one pint of boiling and a half pint of cold water were poured into the metal container and mixed The temperature of the experimental fluid (tap water) in the tubes was as follows 15 minutes after filling, 32 0° C , 30 minutes after filling, 34 5° , 60 minutes after filling, 37 5° (approximate blood heat), 90 minutes after filling, 35 2° , 2½ hours after filling, 31 0° By this simple and inexpensive instrument a temperature near blood heat (but not exceeding it) can be quickly secured by the use of boiling and cold water, which are always available when doing blood cultivations On arrival at the case I first proceed to fill the radiator, and after preparation of the arm the broth tubes are nearly at blood heat

London W CHARLES RUSS, M B Lond , M R C S Eng

THE LANCET.

LONDON: SATURDAY, MARCH 8, 1913.

The Position at the Royal National Hospital for Consumption for Ireland.

A MOST regrettable situation has gradually arisen in the affairs of the Royal National Hospital for Consumption for Ireland. Differences between the board of governors and the honorary medical officers have resulted in the resignation of the consulting and visiting medical staff. The institution is left without scientific direction. The Royal National Hospital is situated in county Wicklow, 22 miles from Dublin, and was opened in 1896 for the treatment of poor persons suffering from pulmonary tuberculosis in its incipient or early stages. During the 17 years of its existence excellent results have been obtained through its work; the open-air system of treatment was here given one of its earliest and fullest trials, and the work and size of the institution have gradually grown hand-in-hand with its success. But the Board of Management has gradually changed in character. Formerly in the 20 members some medical men were included, but these have dropped out one by one, and at present the affairs of the hospital are solely in the hands of laymen. The honorary medical staff consists of seven consulting physicians and two visiting physicians, together with an honorary consulting surgeon, who are all members of the staffs of different Dublin hospitals. The visiting physicians alternately visit the hospital each week and at other times when summoned by the resident medical officers, of whom there are two. The work of the visiting physicians has year after year received from the Board expressions of thanks and appreciation, and this was perhaps to be expected when the Board became entirely lay in its constitution, as it was clear that such a body would often be at a loss as to the rights and wrongs of a medical question, and dependent for advice as to the proper course to pursue upon their professional staff.

The circumstances leading up to the present crisis, however, show that the Board considers itself able to judge without medical interference upon important medical matters. The story is briefly as follows. In April, 1911, the two visiting physicians attended by request a meeting of the Board in order to express their views on a proposal to invite an outside medical man to try a special treatment for the relief or cure of tuberculosis at the hospital. The project did not commend itself to them or to the only member of the governing body present at the discussion. Six weeks later the board invited the consulting, visiting, and resident medical staffs to consider the desirability of adopting any special treatment at the hospital, including that which was proposed at the previous meeting. The whole medical staff thereupon expressed the unanimous opinion that medical treatment was a matter solely for the medical staff, and that in any case it was undesirable in the interests of the hospital that methods unproved by scientific research should be adopted. No action was then taken by the Board, but in December, 1912, the visiting physicians were informed by letter that the medical man previously referred to had been appointed as an additional physician to take charge, in particular, of insured patients. The reason given by the Board for this step was that owing to the expansion of the hospital the duties of the visiting physicians had outgrown their capacity and that additional help was needed. It may be mentioned here that the visiting physicians had expressed no desire to be relieved of any of their duties, which they had not found irksome in any respect. The visiting physicians accordingly conferred with the consulting medical staff, and jointly with them wrote to the Board expressing surprise at the appointment of an additional visiting physician without consultation with the existing medical staff.

And as in view of the circumstances summarised above the honorary medical officers could not avoid the belief that the new appointment had been made with a view to the adoption of methods of treatment which they had already disapproved of, they felt bound to resign their posts. In reply to their letter of resignation the Board expressed great regret, and earnestly asked the medical staff to reconsider their position. This the medical staff could not see their way to do, but they agreed subsequently to nominate four of their number to meet in conference with four members of the Board, in the hope of adjusting the difficulties which had arisen between the two parties. A friendly conference was held on Jan. 17th of this year, and draft terms of agreement were approved. Under these the medical staff agreed to withdraw their resignations subject to the adoption by the Board of a return to the *status quo ante*—i.e., before the appointment of the additional visiting physician—and a future representation on the Board of Management of at least two members elected annually by the consulting and visiting medical staff. The medical staff further agreed to approve, in the special circumstances which had arisen, the appointment of the medical man in question as pathologist to the hospital subject to the instructions of the visiting physicians. The reply of the Board to this proposal was that these terms could not be accepted, but that they again earnestly asked the medical staff to cancel their resignation. The position has, however, not been changed by this request, and on March 1st the entire honorary staff finally resigned their connexion with the hospital.

Thus the conflict of opinion between a lay board and a body of expert medical men upon what is essentially a professional rather than an administrative matter has deprived an excellent institution of the advice and assistance of Dr. WALLACE BEATTY, Dr. MICHAEL F. COX, Dr. J. MAGEE FINNY, Sir JOHN W. MOORE, Dr. JOSEPH O'CARROLL, and Sir WILLIAM J. THOMSON, the consulting physicians, of Mr. W. I. DE COURCY WHEELER, consulting surgeon, and of Dr. ALFRED R. PARSONS and Dr. JAMES B. COLEMAN, the visiting physicians. This loss by itself would be a severe blow to the hospital, but the matter is far more serious than that. Unless the board of governors can set itself right with the medical profession the whole future of the institution is in jeopardy. The resigning medical men have already issued a circular letter to the medical profession in Dublin and neighbourhood, setting forth the history of the dispute and their reasons for the step they have taken. Their object in issuing this statement to their colleagues is to make them "aware of the conditions under which any persons now to be appointed to the medical staff must hold their positions." The correspondence and various statements which we have had before us lead almost irresistibly to the conclusion that the lay board of the Royal National Hospital for Consumption for Ireland has brought this trouble upon its own head, and that no medical staff could in justice to itself, to its profession, and to its patients have acted otherwise.

The Problem of Medical Practice in India.

In another column (p. 707) our readers will find a detailed consideration of the present position of the medical profession in India from a correspondent who is intimately acquainted with the facts. The multifarious duties carried out by the officers of the Indian Medical Service in its various branches are clearly set forth, as well as the more important conditions under which the work is conducted, and the relations that subsist between this service and the rest of the profession in India. The conclusion arrived at is that, on the whole, the medical provision of the country is efficient and satisfactory, and that from the point of view of the State, as concerned with the health and medical care of the population, no considerable change is required. As regards the interests of the medical profession there are two points of view—that of the Indian Medical Service and that of the body of independent medical practitioners. The latter feel a grievance at the extensive monopoly of lucrative posts held by the former. The former naturally object to any curtailment of the position, privileges, and emoluments, on the faith of obtaining which they have entered the service and devoted their energies to a life's work in India. Our correspondent takes the view that the honourable conditions of service in the Indian army, together with good pay and prospects, and ample leave, would be sufficient to maintain the Indian Medical Service at its present high level of efficiency, and that the liberty of private practice might be withdrawn without injuring that distinguished service and with advantage to the medical profession and India generally. He considers also that the professional appointments in the presidency towns should be held by civilian medical men, and not attached, as at present, to some particular civil appointment of the Indian Medical Service.

Our correspondent is probably fully aware—as we ourselves are aware—that such sentiments will be painful to some members of the Indian Medical Service, but other members of that service who have given close attention to a very difficult subject and have accordingly realised the increasing responsibilities of their select body, have already seen that considerable modifications in the present conditions of medical practice in India are desirable, and indeed inevitable. It must be admitted that many officers of the Indian Medical Service are overworked, having more numerous and more varied duties than they can possibly perform satisfactorily; there is no need to give specific instances, they can be found in the official directories. There has been too much concentration of duties, executive, professional, professorial, in too few hands. There are other matters also of administration, such as too frequent changes of station among the junior officers, which need, and doubtless are receiving, the attention of the authorities. But what we feel ought to be regarded as of the chief importance is the maintenance of the existing high standard in the *personnel* of the Indian Medical Service. In saying this we do not mean that the interests of this branch of the public service should be preferred to those of the public service in general; or of the inhabitants of India, whether native or European; or of India itself the country and the people. We feel convinced that there need be no conflict between these interests. The record of the British rule in India is one of which any nation might be proud, and the medical profession has had its full share in this record. "Peace hath her victories no less renowned than war"; the Indian Medical Service has borne a distinguished part in both. More than any other branch of the public service, the men of the medical department have reconciled the people of India to a foreign government. "The influence of the European physician upon the native races of India has been of an importance, not only great in itself, but great in a proportion probably far exceeding any other; and I venture to think that, if at any time our *raj* in the country came to an end, the influence that would be longest remembered and bear most lengthy fruit would be that exercised by our profession." These are the words of DE CHAUMONT, spoken in 1881, and it is the aspiration of the whole of the medical profession that they should remain true, and that the progress of India should go hand in hand with medical progress.

At the present time the members of the Indian Medical Service are actively engaged in every branch of professional work and scientific research. It would be invidious to mention names, many of which are known throughout Europe as pioneers in all branches of medical, surgical, and sanitary science. Besides these there are very many other workers whose names are not known to fame, but who are spending their lives in the hardest toil in remote parts of India, often in complete isolation professionally, and with hardly any European comrade. The daily work and responsibility of these men are increasing and unceasing. They make up the main body of the Indian Medical Service. We should look with the greatest regret on any change in the position and prospects of the service which would in any way injuriously affect the status and interests of these members of the profession, or which would in any way deter men of the like high character and attainments from entering the Indian Service, a service which has hitherto attracted some of the best men sent forth from our medical schools, whose subsequent achievements have been an honour to our race. But when the necessity for change arrives it is imperative to be ready to take full advantage of the new order of things. The Indian Medical Service is not befriended only by those who praise its past achievements. It has equally sincere admirers who desire it to be prepared for developments so that the value of these developments may be attended with a minimum of sacrifice. From which it may be seen that we cannot go all the way with our correspondent, but consider none the less that he has raised questions which will have to be faced in the near future.

The Ambulance Supply of London.

WE recently referred, in commenting upon an inquest held at the City of London coroner's court in January last, to the acute need for ambulances to supply, at any rate, the street and emergency needs of the metropolis. In the case in question it may be remembered that the deceased was taken ill suddenly at the Islington Empire Theatre and was conveyed on an ambulance to St. Bartholomew's Hospital, where he died. More than half an hour elapsed before he was transported where he could receive medical attention. Dr. F. J. WALDO, the coroner for the City, in commenting upon the circumstances of the case, expressed his desire that the London County Council should go into the matter and provide ambulances, mentioning at the same time a common apprehension lest the numerous and various functions of the Council should already over-occupy its time. Some discussion on the question of ambulance service for the County of London took place at the meeting of the London County Council on Feb. 18th, when this very case was under discussion.[1]

The history of the efforts which have been made in the past to provide London with an efficient service is not without interest, and is, indeed, illustrative of the difficulties that always attend any movement which is made to provide a new administration for London, owing to the division of the county services among various authorities who separately undertake branches of work elsewhere devolving upon the one municipal authority responsible for all. London has up to the present time had practically to depend for the removal to hospital of persons meeting with accidents in the streets upon the provision of hand litters kept at various police stations, upon the use of hand litters provided by the Bischoffsheim Ambulance Service, and upon ambulance litters and stretchers provided by the St. John Ambulance Association. There is no uniform or coördinated service which can be depended upon for the prompt removal from all parts of the metropolis of injured persons. The London County Council in 1906 applied to Parliament for powers to establish a much-needed ambulance service, and the evidence given before a Committee of the Houses of Lords and Commons showed the kind of vehicles, often cabs and barrows, which conveyed to hospital persons suffering from serious injuries. The use of these rough conveyances added to the probability that simple fractures would become compound in the act of removal to hospital. The London County Council was then prepared to establish an efficient service by which motor ambulances could be fetched by the use of telephones established in the streets throughout the metropolis. The estimate of the cost was by no means excessive, and the House of Commons was ready to confer the necessary powers on the Council. The City Corporation opposed the Council's Bill, having provided an excellent service in its own area while the subject was under the Council's consideration. In the House of Lords the Council was less fortunate, and for one or another reason its proposals were rejected. The pressing need for the subject to be dealt with in an adequate and comprehensive manner was, however, generally recognised, and it was obvious the matter could not remain in so unsatisfactory a position. Hence the Home Secretary, then Mr. H. J. GLADSTONE, appointed a Departmental Committee which, after hearing evidence, came to the conclusion that such a service as the County Council had proposed was a real necessity, but recommended that its provision should be entrusted to the Metropolitan Asylums Board. There was then some justification for this conclusion, inasmuch as the Managers of that Board had provided an excellent service for the removal of cases of infectious disease from the homes of the patients to the various fever hospitals, and the London County Council had at that time no touch with the subject of ambulance provision. A Bill, however, was introduced into Parliament by Sir WILLIAM COLLINS which gave the Council all the powers it needed, but a change in the constitution of the Council led to the exercise of these powers remaining in abeyance.

Since the recommendations of the Departmental Committee of the Home Office were arrived at the position of the Council has been materially altered. It now possesses an ambulance service for the removal of defective children to the special schools, while a large development of this service is inevitable if economy is to be effected in the provision which is being made for the medical treatment of children attending the ordinary schools. Obviously the treatment centres must be multiplied or facilities given for the conveyance of the children to a smaller number of more distant treatment centres for the purposes of medical attention. It is now proposed to apply to Parliament for powers to enable the County Council, the Metropolitan Asylums Board, and the boards of guardians to enter into agreements for the use for the purpose of any ambulance service which may be established under the Metropolitan Ambulances Act of 1909 of the premises and ambulance appliances of these authorities. This is at the best to provide London with a patchwork service which is not likely to prove efficient. It will fail in the one necessity that the whole service should be vested in one authority, and this is a side of the question which the County Council would do well to consider.

DEVON AND EXETER DENTAL HOSPITAL.—At the annual meeting of the subscribers to the Devon and Exeter Dental Hospital, the medical report stated that during 1912 the patients attended numbered 2543, making a total of 141,731 since the institution was founded. The financial statement was satisfactory. The committee announces that a new scheme has been introduced in the past three months of providing, at an extremely low cost, artificial teeth for those among the poorer classes who were in need of them.

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[1] THE LANCET, March 1st, 1913, p. 633.

Annotations.

"Ne quid nimis."

THE DOMINANT NUISANCE OF MODERN CIVILISATION.

IN a recent case in the Chancery Division, in which Mr. Justice Swinfen Eady was invited to restrain the keeper of a fried fish shop from continuing the nuisance alleged by his neighbours to arise out of his trade, his lordship granted an injunction, and cited as the authority for his own guidance in so doing a definition of a nuisance laid down by Sir James Knight Bruce. That learned Vice-Chancellor, whose language has been described by a biographer as always terse and lucid, defined a nuisance with which the Court of Chancery might interfere as "an inconvenience more than fanciful, and more than one of mere delicacy and fastidiousness, an inconvenience materially interfering with the ordinary comfort, physically, of human existence not merely according to elegant or delicate modes and habits of living, but according to plain and sober and simple notions among English people." Sir James Knight Bruce was promoted to the Bench in the Court of Chancery by Sir Robert Peel in 1841, and died in 1866. The exhalations of a fried fish shop are probably more familiar to those who now live in or traverse the humble streets of the metropolis than they were to him and to his contemporaries, owing to modern conditions of transport and storage, but in most respects a more sanitary and less malodorous London affords a home to a vaster population, and similarly improved conditions are to be found in provincial cities and country towns. If, however, the Vice-Chancellor, revisiting the scene of his judicial labours, might observe an increase in "elegant or delicate modes and habits of living" among us we venture to suggest that he would be struck at the same time with the increase of a particular form of nuisance, and with the tolerance extended to it. We refer to the nuisance of noise. The "roar" of the traffic of London was no doubt considered remarkable in the middle of the nineteenth century by those who frequented its more crowded streets, paved with granite and used by vehicles all of which had iron tyres, but it is not to any increase of noise in busy localities that we refer. Horseless traffic by introducing the horn has in the last few years brought sudden nerve-distracting noise into the quietest thoroughfares at all times of day and night, while there come also heavy vehicles of the traction engine type, apparently subject to no restriction of any value to the sleepless citizen. The horsed omnibus has, of course, been replaced by the motor omnibus, and we hardly need mention the growing numbers of these vehicles or their introduction into streets where public conveyances were formerly unknown. Street bands may be fewer, and perhaps the demands of modern traffic for free use of the roadway are responsible for this, but, on the other hand, the hurdy-gurdy against which our fathers inveighed has as its substitute the far noisier piano organ. Of the date of the introduction of the cab whistle we are not aware, but few will deny its more frequent use during recent years and an appreciable increase in the volume of sound produced by it. Such nuisances as arise directly out of noisy trades, out of the proximity of skating rinks, and out of efforts to attract audiences to picture palaces are proceeded against by neighbours, though often at a considerable cost to themselves. The nuisance of noisy traffic concerns citizens in general, and if some "plain and sober" persons may not object to it, we have little doubt that the great majority desire to see it abated. The muffin bell and the cries of the street-hawker have been largely suppressed, not so much by the making and enforcing of by-laws as by a change in our habits, and it does not seem unreasonable to suggest that an attempt might be made to deal also with the cab whistle and the motor horn. The former is, of course, cheaper in use than electrical communication with the nearest cab rank, and a substitute for it as a means of summoning the "crawler" is not easy to devise. The motor horn is used to facilitate fast driving and as a substitute for slowing at crossings, which had to be done by the less insistent method of horse traffic. At present a house situated near a busy street corner is inhabited subject to gross nuisance, for by day and night every private car or taxi-cab that passes it in proceeding towards the corner hoots two or three times in doing so. Cars approaching the cross roads from other directions hoot at a slightly greater distance. All this would seem to suggest a combination of the dwellers in such houses, for the protection of the value of their own property and of their own comfort; they should demand the enforcement of careful driving, and the forbidding of hooting in the circumstances described. A very large proportion of the population of London must suffer in health and temper from interrupted rest at night, and by day from the lack of reasonable quiet in their places of business and in their homes. We do not forget, when we compare the traffic in London to-day with that prevailing in the middle of the last century, that in those days there was neither wood pavement nor rubber tyres, and that the clatter of horses' hoofs has almost ceased. These considerations, however, suggest that if we took full advantage of modern developments our streets might be rendered far more quiet, a consummation which our descendants may arrive at, but which at present we are far from attaining.

THE DEATHS OF THE KINGS OF ENGLAND.

THE deaths of kings have always held a foremost place of interest in the minds of men, so much so that, to speak paradoxically, tradition tells us that more than one king's death is really a resting life. Arthur of Britain sleeps in the isle of Avilon, Charlemagne slumbers until the times of Antichrist be fulfilled, Barbarossa with six of his knights rests in the Kyffhauserberg until Germany shall have need of his aid, as, in like manner, with reference to their own kingdoms, do Ogier the Dane and Olaf Tryggvason of Norway, while even so modern a sovereign as Napoleon Buonaparte is believed to be awaiting his country's call. The life of a monarch has at no date been an easy life; in earlier times he was a mark for the assassin and the enemy, and in all ages a really conscientious ruler is weighed down by the burden of responsibility. In England eight sovereigns since the Conquest have been done to death or slain in battle. In Scotland and Ireland we make no attempt to summarise the bloody tale. It is small wonder that Shakespeare made Richard II., as if in premonition of his own miserable death, "tell sad stories of the deaths of kings." But the study of diseases from which kings have died, if carefully conducted, is capable of throwing light upon the medicine of history, and so by direct conversion upon the history of medicine. The latest work on the subject is a monograph by Dr. James Rae[1] entitled "The Deaths of the Kings of England." Dr. Rae in his preface refers to previous writers on the matter, who are very few in number. Sir Henry Halford gave a lecture in 1819 on Deaths of Eminent Persons, Dr. Raymond Crawfurd in 1909 published an interesting monograph on the death of Charles II., and a series of articles appeared in the *British*

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[1] The Deaths of the Kings of England. By James Rae, M.A., M.D. London and Manchester: Sherratt and Hughes. 1913. Pp. 152. Price 4s. 6d. net.

Medical Journal, 1910-11, under the heading Some Royal Death Beds. Dr. Rae takes the sovereigns of England from William I. to William IV. and has carefully collated the authorities who have given accounts of the deaths of the various monarchs. On the information thus collected he founds his diagnoses. He himself admits that some of his diagnoses "may be considered fanciful," and herein we agree with him, but all the same his theories are of interest, and in one case only does he seem to us to attribute death to a cause which lacks plausible arguments in its favour—namely, the case of Henry II., whose "fever" he considers to have been a dysenteric affection. One daring diagnosis is of interest in these days of hunger strikes—that Richard II. died from anorexia nervosa. The chronicle says, "semetipsum inedia voluit peremisse," and also that when on the advice of his friends he gave way and tried to eat, "all appetite was gone and the opening of his stomach had closed up so that he died." This account, says Dr. Rae, is quite consistent with a diagnosis of anorexia nervosa. Richard may well have become unbalanced mentally; he was but a child when he came to the throne, and the political state of the kingdom was enough to try the strongest brain and will. Everyone will not agree with all Dr. Rae's diagnoses, but we can thank him for an entertaining book, the value of which is increased by the excellent bibliography.

OVARIAN INFLAMMATION COMPLICATING EPIDEMIC PAROTITIS.

Professor Harlow Brooks of New York calls attention to the fact that ovaritis does seem to occur occasionally as a complication of mumps, albeit in a very small percentage of cases. If the frequency with which the testicles are involved be held to have any bearing on the probability of ovarian inflammation, it seems not unreasonable to attribute the pelvic symptoms noted in this writer's two patients to true ovaritis, though apparently so far no one has actually seen an inflamed ovary in connexion with unquestioned mumps. In a certain number of the cases which have been recorded as instances of ovarian mumps the evidence put forward is not convincing; many of these are disqualified by the youthfulness of the patient, which makes an adequate pelvic examination impracticable. Both of Professor Brooks's patients, however, were grown women. In the first of the two cases which he reports in the *Journal of the American Medical Association* of Feb. 1st the patient was a healthy multipara, aged 28. The parotitis, which was limited to the left side, was followed after a week by pain in the region of the left ovary, which became enlarged and very tender. After two days the pain diminished; this was followed by a menstrual period which occurred ten days before it was due, and was more profuse than usual. After this the ovary, though still painful and enlarged, was much less so. During five years following this attack the patient did not become pregnant; after that time she was lost sight of. In the second instance, that of a married multipara 24 years of age, the pelvic symptoms appeared, together with a rise of temperature, five days after the onset of a mild attack of bilateral parotitis. Both ovaries became enlarged, each to the size of a hen's egg, and extremely tender and painful. Two days later both breasts became acutely inflamed, but the patient was quite well a month later. Since then she has been under periodical observation for six years. Her periods have been regular and normal, and though she has not become pregnant, this is probably due to the fact that her husband is syphilitic. It is worthy of note that the breasts, which formerly presented a normal firmness and bulk, have become atrophic and flabby. In both cases it is reasonable to assume that the micro-organism, or whatever it is that irritates the salivary glands in mumps, provoked a similar reaction in the ovaries, to which it had been carried by the blood-stream. In the whole range of pathology there is no more striking example than mumps of the predilection manifested by certain micro-organisms for attacking certain types of tissue; for it can hardly be doubted that mumps is a bacterial infection. When pathologists have leisure to turn from the investigation of the graver infections to a search for the exciting cause of epidemic parotitis, it is possible that their quest will be rewarded by the discovery of facts which are of importance for the whole pathology of infective disease.

FEBRUARY AT HOME AND ABROAD.

FEBRUARY was appreciably colder than January, both in this country and on the continent, and it was also much drier and generally much more sunny. In England the average afternoon was from 3° to 5° colder, and the nights about 4° colder. The month, however, was not cold for the time of year, the temperature as a whole scarcely diverging at all from the average for the past 30 years. The rainfall, on the other hand, differed considerably from the normal. February has about the smallest average of the year, but last month was much drier than usual, a large area getting only about half the normal quantity of rain, and many localities only about a third. But although so dry the weather was not correspondingly bright. In many places the total number of hours of sunshine was far below the average, and in few above it, and the number of sunless days was high. In the London area, as represented by Kew observatory, the mean maximum temperature was 46° and the mean minimum 35°, figures almost identical with the February average. At Nottingham the mean maximum was also 46°, but the minimum was 33½°, while at Bath the mean maximum was as high as 48° and the mean minimum 34°. The extreme south-west coast of England did not escape the lower temperature, but it was still warmer than the other parts of the country. At Newquay the mean maximum was a degree lower than that at Bath, but the mean temperature of the nights was 4° higher, and at Scilly, where the mean maximum was 49°, the mean minimum was no lower than 41°. The Channel Islands differed little from Scilly; at Jersey the mean afternoon maximum was 49° and the mean minimum 40°. There was, in spite of the rather low average level of the thermometer, very little severe frost in any part of the kingdom. In London the thermometer sank below 32° on only eight nights, the lowest point reached at Kew being 27°, while at Nottingham and Bath the corresponding figures were 12 and 13 respectively. At Bath the greatest cold was 28°, and at Nottingham 23°. In London the temperature reached or exceeded 50° on nine days, but in January the same figure was reached or exceeded on 19 days. At the Scilly Isles and Jersey there was no actual frost, but at both places the thermometer just touched 32° on the night of the 18th–19th. Sunless days were nearly as frequent as during January. At Kew there were as many as 12 on which the sun was not visible at all or shone so feebly that no record was burnt on the recording card, and the total number of hours for the month was no greater than 37, a figure 23 hours below the February average, and just equal to the average for January. The metropolis, however, experienced occasional fog and mist, which were much less prevalent over the country generally, and some of the cities of the Midlands recorded several hours' more sunshine. At Nottingham there were 41 hours, against an average of 50, and at Bath there were as many as 71 hours, against an average of 63. In the far south-west the figure was near the normal. At Newquay there was the very good total of 94 hours, at Scilly 80 hours, and at Jersey as many as 109 hours. This last value is 17 hours in excess of the normal. Rain and snow were seldom experienced. Both at Kew and Newquay there were no more than 10 days with rain, and at the humid Scilly Isles only 12, while at Jersey the figure was as low as 7. The continent was drier still. At Paris and Nice there was rain on only 4 days, and snow or rain fell at Berlin on only 5 days, and Biarritz sometimes so rainy in February, had rain on no more than 9 days. At Paris the month was remarkable for the sunshine. Although there were 6 days entirely sunless, the total for the month was as high as 150 hours, giving the very high daily mean of 5 hours and about 20 minutes. In London the mean was about four hours less. Owing to the sunshine Paris was milder during the daytime than London, its mean maximum temperature being 48°. At night, however, it was colder, having a mean minimum of 32° and frost on 16 occasions. Berlin was not cold for February, but its temperature was much lower than at Paris or in any part of England. Frost occurred on every night after the 13th, and about the middle of the month continued throughout the day also. The mean maximum temperature was 42° and the mean minimum 29°. The Riviera had a brief touch of cold from the 18th until the 20th, when snow showers fell locally and the thermometer at night fell to the freezing point, but as a whole the month was mild and very fine. At Nice the mean maximum was 4° above that at Scilly and Jersey, but the mean minimum was a little lower, the figure being 38°, just the same as at Newquay. Biarritz was not so consistently bright as the Riviera, but was mostly very fine, and its temperature was rather higher than at Nice both during the day and night. Frost occurred on three nights, and the mean minimum temperature was a degree lower than at the Scilly Isles. Madeira, although beyond the direct influence of the weather systems of Europe, was also colder than during January. Its mean maximum temperature was 64·4°, against 65·5° in January. The mean minimum however, was practically the same during the two months—in round figures 48°. There were only seven days with rain, and on most occasions the fall was slight.

THE ENDOWMENT OF RESEARCH

IN the interesting inaugural lecture delivered by Professor J. M. Beattie on his assumption of the duties of the chair of bacteriology in the University of Liverpool he spoke of the triumphs already won by that science and of its aim—the prevention of disease—and of the methods by which that aim should be attained. He is struck by the danger which arises from specialisation, from the separation of the bacteriologist from the pathologist and of both from the practical physician or sanitarian. This danger, he thinks, can be met, and is being met, by such cooperation of investigators as has been realised for many years in the laboratories of the continent and for some time in America, where, according to Professor Beattie, it attains its highest ideal in the Rockefeller Institute. If "cooperant, and not specially individual, work is the keynote of success," and if, as experience has shown, it is by the close coöperation of fellow-workers in an institute that this success can be realised, how does England stand in this respect and where are our institutes? Professor Beattie is able to point to one, and one only, in the British Isles—the privately endowed Lister Institute. On the basis of the past record of bacteriology, a record which shows results capable of being expressed in terms of financial profit, he claims increased help in the future. Is there prospect of such help? Under the Insurance Act a fund for the endowment of research in tuberculosis is provided, and the suggested schemes for its use include the provision of a central institute such as Professor Beattie desires, or the assistance and completion of the fairly numerous existing centres which with further financial aid could easily attain to his ideal of scientific coöperation. Unfortunately, the attempted treatment and prevention of tuberculosis will more than exhaust the funds available under the Act, and Insurance Committees are already appealing to the Treasury for further aid, so that this source of help may not be realised for some time. There is, however, a change of attitude and a greater sympathy shown by the Government towards educational grants, but there is grave reason to fear that these grants are given from a desire to secure control rather than from any desire to assist education, and it behoves educational authorities to try to educate the Government in the proper principles of administration of such grants. That the man who pays the piper should call the tune is admitted, but if the paymaster is devoid of an ear for music and attempts to teach the orchestra how to play the tune he has called, the result is cacophony. There is no doubt as to the object—practically the avowed object—of the grants made to certain London medical schools, and it is against interference by the Treasury with their educational aims that the Scotch universities have had lately to make vigorous protest. It is for strong bodies like the universities to see that Government grants are not given under such conditions as to render them dangerous rather than helpful.

THE "PARISH DOCTOR" IN SPAIN

ACCORDING to *La Cronica Medica* of Valencia the students and alumni of that university have been meeting in protest against the unsatisfactory way in which parish doctors are paid—or not paid—by the communal authorities, a case being mentioned in which one unfortunate medical officer had not received his nominal salary of £40 for 22 years. The Madrid students are also joining in the agitation, as was pointed out last month in these columns by a Spanish correspondent. The object is principally to get the local medical and educational services put directly under the central government, so that the medical officers and schoolmasters should not be entirely under the thumb of the local authorities.

DEMINERALISATION IN HYDRO-THERAPEUTICS

AN interesting note in which the therapeutic claims of Evian Cachat water are briefly and clinically explained by Dr. Paul Bergouignan has reached us, the principle upon which the treatment is founded being that of demineralisation. With this end in view the most valuable ally is, of course, a coöperative *régime* in regard to diet, for it is obviously useless to try to demineralise tissues which are in constant process of being over mineralised. Demineralisation, primarily a dissolving and flushing process, as evidenced in a course of Evian Cachat waters, relieves the body of waste matters out of the blood, the liver, and other organs, and excretes them through the kidneys. The water is admittedly not radioactive, while chemically it contains practically no salts of clinical importance. According to our own analysis made in 1902 the total solids only amounted to 3 grains per pint, consisting chiefly of alkaline carbonates and a very small quantity of sodium chloride. Clinical observations have shown that the urine after the water has been administered fasting contains twice as much uric acid and five or six times the quantity of chlorides as the urine voided during the preceding night. The bottled water retains much of its diuretic power, and experiments at some of the hospitals in Paris show it to be more active than distilled water and three times as diuretic as that supplied through the city mains. The diuretic activity is best secured when the patient is directed to maintain the recumbent posture for two hours after the last dose. Any disease of the kidneys which seriously impairs their excretory capacity may be regarded as a definite contraindication to the Evian treatment. In the case of neurasthenics who owe their "rather vague but very trying subjective symptoms to auto-intoxication" the demineralising power of the waters is described to be seen at its best, but, of course, the general happy condition of the place, the climate, the scenery, the air, and even the colour, lend very powerful aid to the cure. If it is admissible to speak of the pharmacology of this water, it is probable that we are dealing with physical agencies, amongst which must be counted osmosis.

DR. WILLIAM BEAUMONT.

A LITTLE more than one hundred years ago—namely, on June 9th, 1812—a licence was granted to William Beaumont, by the Third Medical Society of the State of Vermont, to practise physic and surgery, and ten years later occurred that tide in his affairs which, taken at the flood, led him to fame, if not to fortune, for it was then that he came into contact with Alexis St. Martin, and began to conduct the physiological research which practically laid the foundations of our knowledge of the physiology of digestion. Although several cases of gastric fistula had been reported before Beaumont's day, yet in none of these, except one, do we find that any experiments upon digestion were made. The earliest deliberate experiment upon digestion which we can call to mind was made by the Emperor Frederic II., *circa* 1240, who, as recorded in Salimbene's Chronicle, fed two men at dinner. One of these was then sent to sleep and the other to hunt. In the evening the two men were disembowelled, as the Emperor wished to know which of the two had digested the better, and the physicians gave a verdict in favour of him who had slept. Another and even worse instance is on record of some sixteenth century Calvinists in the Low Countries. Having seized an aged Catholic priest they roasted his legs before a fire and, cutting off the cooked portions, made him eat them. Then, wishing to see how digestion progressed, they cut open his stomach, so that he died. Such experiments, however, can scarcely be called scientific, and it is Beaumont's glory that with very imperfect apparatus, and under most adverse circumstances, he was able to make such sound observations as he did, and to keep such admirable records thereof. An interesting study of Beaumont's life has been recently published by Dr. Jesse S. Myer, of St. Louis.[1] From this we learn that William Beaumont was born on Nov. 21st, 1785, being the third son of Samuel Beaumont, a farmer, of Lebanon, Connecticut. He attended the village school and worked on his father's farm until he was 21, when he left home to seek his fortune. In the spring of 1807 he arrived at Champlain in the State of New York, close to the Canadian frontier, and after finding employment as a schoolmaster determined to study medicine. With this object in 1810 he went to St. Albans, Vermont, where he bound himself apprentice to Dr. Benjamin Chandler, who seems to have been a most admirable teacher. Beaumont's case-books kept by him during this period show that he soon began to be an excellent observer. In June, 1812, he received his licence to practise, and on the declaration of war with Great Britain he applied for and obtained a post as surgeon's mate in the army, his commission being dated Dec. 2nd. In March, 1813, his regiment was sent to Sackett's Harbour on Lake Ontario, and on his arrival there he wrote to Dr. Chandler giving sundry military details varied with medical matters, such as: "The old Brunonian practice, a little varied and changed into the Chandlerian, succeeds almost to a miracle." He adds with a laconic brevity which would have endeared him to the heart of "brave Broke" of Shannon fame: "Yesterday we shot a soldier of the marine corps for desertion; we could not obtain the privilege of dissecting him. Next Thursday another is to be shot." Beaumont was present at the battle of Little York, April 27th, 1813, at which he noted with disapproval the "inhuman project" of the British in blowing up their magazine, and at the battle of Plattsburgh, August, 1814. In June, 1815, peace having been concluded, he resigned from the service and started in private practice in Plattsburgh, combining professional work with the keeping of a store for "drugs, medicines, groceries, dye woods, &c.," the &c. including such articles as "segars, gin, snuff, plug and paper tobacco." In March, 1820, he re-entered the army, and was sent to Fort Mackinac on Lake Huron. In 1821 he married Mrs. Deborah Platt, and in 1822 came to the turning point of his professional life. On June 6th of that year a number of Canadian voyageurs were in the store of the American Fur Company at Mackinac, and by the accidental discharge of a shot gun Alexis St. Martin was wounded in the abdomen. The gun was so close that St. Martin's clothes were set on fire, and the charge, duck shot, was practically solid. The wound was on the left side, and opened both the thoracic and the abdominal cavities. Sundry ribs were fractured, one of which tore away a portion of the wall of the stomach, and a large part of the left lung came out of the wound. In addition, the tissues were full of shot, bits of cloth, and fragments of bones and cartilage. Beaumont's description of the wound and his treatment is very full and extraordinarily interesting. A good deal of the lung sloughed, but the patient's recovery though slow was uninterrupted. It was then that Beaumont began that masterly series of experiments which were continued at intervals for some 11 years. The results of these investigations were published by F. P. Allen, Plattsburgh, in 1833, the title of the book being "Experiments and Observations on the Gastric Juice and Physiology of Digestion." From his Government Beaumont received the consideration which Governments commonly show towards scientific investigators, that is to say, indifference. In 1840 he retired from the army and took a country place near St. Louis. He died on April 25th, 1853. The medical profession owes a debt of gratitude to Dr. Myer for his careful and sympathetic study of one of the pioneers in medical physiology.

INCLUSION BODIES IN SCARLET FEVER.

ANY method which renders an early and definite diagnosis of scarlet fever possible would be welcome as a means by which the number of so-called relapses and second attacks might be diminished. The inclusion bodies, first described by Döhle, seemed to offer possibilities in this direction, and have been officially accepted by the City Health Department of Boston as of diagnostic value. An inquiry into their importance and significance has been recently made by Dr. John Granger and Dr. C. Kingsley Pole, and will be found in the *British Journal of Children's Diseases* for January, 1913. These cell inclusion bodies are regarded by Döhle as representing the fragments of a spirochæta which has been partially disintegrated, but as the bodies occur in many other diseases than scarlet fever there can hardly be any suggestion of their etiological importance in the disease. They were found by Dr. Granger and Dr. Pole in a large proportion of cases of diphtheria, measles, and tonsillitis, and, indeed, in most cases caused by ordinary pyogenic organisms, especially if streptococci were present, though they are absent from the blood in toxic rashes. These observers found the inclusion bodies in practically every case of scarlet fever during the first four days of illness, but their results, as indicated above, show that it is impossible to diagnose scarlet fever by blood film examination alone, though the absence of the inclusion bodies practically excludes that disease.

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[1] The Life and Letters of Dr. William Beaumont. By Jesse S. Myer, A.B., M.D. With an introduction by Sir William Osler, Bart., M.D., F.R.S. London: Henry Kimpton. 1912. Pp. 317. Price 18s. net.

TREATMENT OF BURNS BY THE APPLICATION OF ALCOHOL.

In the *Australian Medical Journal* of Jan. 4th Dr. E. T. C. Milligan has described a method of treating burns which he has found more satisfactory than the current methods. In burns of the second, third, and fourth degree cleansing with antiseptic lotions is usually recommended. The moisture causes the sloughs to become septic—in other words, converts dry into moist gangrene. Frequent and painful dressings are then necessary. Dr. Milligan excludes water from the treatment and applies alcohol. He thus prevents moist gangrene and inflammation and saves much suffering. A child, instead of spending several months in hospital, can soon have the burn grafted and run about. The details of the method are as follows. If the patient is in such a state of shock that he cannot stand an anæsthetic, a watery saturated solution of picric acid is applied on lint and protective is put over this to prevent evaporation. On the next day the protective is lifted and more of the solution is poured over the lint, which is not changed. On the third day the patient is either obviously going to die or can stand an anæsthetic. If the picric acid be continued any longer the burn will become offensive. Dr. Milligan has not found the picric acid treatment of burns satisfactory, and simply uses it in the absence of anything better for a patient in condition of shock. Moreover, the acid is absorbed and may cause toxic symptoms. If the patient is in a condition to allow the administration of an anæsthetic he is given chloroform and the burns are cleansed with sterile gauze wrung out of 70 per cent. alcohol. The whole surface of the burn and the surrounding skin is rubbed vigorously. Blisters are rubbed off with all dead tissue. No blister is pricked, nor is the dead skin allowed to remain to keep fluid pent up only to be infected by the organisms of the skin. Dead tissue is more effectively and easily rubbed off than removed with scissors and forceps. After thorough cleansing a dressing of sterile gauze wrung out of the alcohol is applied. Over this dry gauze and wool are applied, and then a bandage. Under chloroform the same process is repeated daily. Every other day will not do, for the burns begin to be septic and offensive. The parts are rubbed, not wiped, with the gauze wrung out of alcohol. On beginning to remove the dressing it will be found stuck to the surface. By pulling upon it bits of dead tissue are satisfactorily removed. The dressings are continued for about eight days when burns which have not destroyed the whole thickness of the skin will be found in such a clean state that boroglyceride gauze or gutta percha tissue can be applied as a dressing without any pain. It is striking how rapidly the burns now heal under the boroglyceride. If they become infected again one cleansing with alcohol followed by one alcohol dressing will render them again aseptic. Burns which involve the whole thickness of the skin take longer on account of the sloughs. Under the alcohol treatment these become black, dry, and shrivelled up, and can be torn off or dissected off with a sharp scalpel and forceps. Valuable time will be lost if the surgeon waits for the sloughs to separate. The best results follow the cutting off of the sloughs, for they are not sodden and the surface is aseptic. A scalpel must be used, for it leaves a clean cut with no track of dead and injured cells as a scissors does. Dr. Milligan has employed this treatment during five months for a great number of burns in the Children's Hospital, Melbourne. One case of extensive and deep burns was fatal. Two large duodenal ulcers were found at the necropsy, but at the time of death (twelfth day) the burns were in an aseptic state with all the sloughs removed. In all the other cases healing was most satisfactory. They included burns and scalds of almost all parts of the body, some deep, some on the face, and some on the buttocks where cleanliness is difficult to maintain in young children. The daily use of chloroform did not prove in any way injurious. There was never any vomiting to interfere with the taking of food, so necessary for a burnt child. Anæsthesia must be employed, otherwise the application of alcohol would be too painful. When the children recover from the anæsthetic they feel no pain and are quite happy.

THE HISTORICAL MEDICAL EXHIBITION.

Among other historical medical objects of exceptional interest that have been secured for the Historical Medical Exhibition, organised by Mr. Henry S. Wellcome, and which will be opened in London during the meeting of the International Medical Congress in the coming summer, are many personal relics of Dr. Edward Jenner, the discoverer of vaccination. These include the original lancets and scarifiers he employed during his first experiments, his case and account books, his snuff-box, medicine chest, and many other interesting articles. A collection of Jenner's autograph letters has also been lent to the exhibition, together with the armchair from his study in which he died. Other objects connected with the life of Jenner are also to be exhibited, including many valuable portraits of himself and family, painted at different periods, the illuminated addresses presented to him, together with the freedoms of the cities of London and Dublin, also medals, and other documents of special interest. Concerning the history of anæsthesia many interesting relics are to be exhibited, beginning with the original autograph journal and manuscripts of Henry Hill Hickman, for whom it is claimed that he was the discoverer of the application of the principle of anæsthesia by inhalation for surgical operations. His experiments on animals were made in 1823. Personal relics of Sir James Simpson, and some of the earliest forms of apparatus for administering chloroform and ether will also be shown. Those who possess any objects connected with the history of medicine and the allied sciences, and who would be willing to lend them, are asked to communicate with the Secretary, 54A, Wigmore street, London, W., who will be pleased to forward a complete illustrated catalogue to anyone interested.

CULTIVATION OF THE VIRUS OF POLIOMYELITIS.

Dr. Simon Flexner's brilliant researches on poliomyelitis have recently been carried an important step further. He in association with Noguchi, by using methods devised by the latter for the cultivation of the *spirochæta pallida*, has now succeeded in procuring what appear to be true cultures of the virus of infantile paralysis; an account of these experiments will be found in the *Journal of the American Medical Association* for February. The organism has appeared to multiply in a mixture of ascitic fluid and filtrate from the infected nervous tissues as was shown by Flexner and Lewis, but the original fluid alone appeared to be capable of producing the disease and not any subcultures. In the new media employed minute colonies clouding the tube make their appearance after several days culture under anaerobic conditions, and these colonies seem to be made up of globular bodies, varying in their arrangement, averaging $0{\cdot}15\mu$ to $0{\cdot}3\mu$ in size and showing a reddish violet with Giemsa's stain. Similar bodies have been demonstrated by Noguchi in films from infected nervous tissues. The third generation from the human disease and the fifth in the case of monkeys have produced typical poliomyelitis. The observers are, however, cautious, and further experiments are being made with later generations in order to exclude the possibility that the results are due to the carrying over of the original virus from culture to culture. In this disease we have apparently a visible though filterable virus.

FATAL AIR EMBOLISM DUE TO ATTEMPTS TO INDUCE ABORTION.

WE recently referred to an accident which may occur in the attempt to induce abortion by injecting fluids into the uterus—the production of fatal air embolism.[1] So far as we know no case has been recorded in this country, and yet, as we remarked, four cases have been reported in one Australian medical journal[2] in a little over three years. In the *New Zealand Medical Journal* for November, 1912, is published a paper read before the Canterbury Division of the British Medical Association by Dr. J. W. Crawshaw which is further evidence that this is a common method of inducing abortion at the Antipodes. Two cases have been before the courts in the North Island of New Zealand, in one of which a conviction was obtained. Dr. Crawshaw reports the following case from the South Island. On May 17th, 1912, he was called to the house of a woman whom he found dead. She had four living children and had had five or six miscarriages, the last in August, 1911. Her health, except for anæmia, caused by severe hæmorrhages at several of these miscarriages, had generally been good. When Dr. Crawshaw arrived there was a woman in the house who was uncommunicative. All she would say was that while her back was turned she suddenly heard a cry and the sound of a fall and found the deceased on the floor perfectly still. On Dr. Crawshaw's arrival the body had been placed on the bed and was quite warm. There were no signs of violence. The pupils were of medium size. The clothing was unfastened on the chest and was wet. It had been unfastened after the woman fell and the wetting was due to an attempt to make her drink. The rest of the clothing was not disarranged; indeed, the chemise was tucked into the drawers very tightly. There was no hæmorrhage or discharge from the vagina, and the underclothing was dry and showed no stains. A necropsy was made 17 hours after death. The body was well nourished. Examination of the organs *in situ* showed that the uterus was of the size of a four months' pregnancy. The liver and spleen appeared to be slightly enlarged. In the thorax nothing abnormal was noticed. It was decided to make a detailed examination of the abdomen first. The liver was first removed. Numerous large bubbles of gas escaped from the divided portal vein. On detaching the liver from the vena cava inferior a great quantity of gas escaped from that vessel. The liver was slightly enlarged but on section quite normal. The uterus, vagina, tubes, and ovaries were removed *en masse*. On dividing the ovarian and uterine vessels gas escaped from the veins on both sides in a continuous succession of bubbles, and pressure on the uterus forced out a considerable quantity of air from the cut ends. The uterus was of a peculiar mottled appearance, purple areas alternating with others of a lighter greyish colour. The muscle felt soft and flabby, no rigor mortis being apparent. On rolling the uterine wall between the finger and thumb a crackling sensation was felt, resembling that of surgical emphysema. On section of the uterine wall this was found to be due to air in the venous sinuses, which issued from all parts of the cut surface on pressure. The external os was patulous, admitting the index finger easily. The uterus contained an unruptured ovum which was separated along the whole of its posterior and lateral surfaces and for a considerable part of its anterior surface. There remained attached only the upper two-thirds of the placenta with a small area of membrane at the fundus. In spite of this detachment no hæmorrhage had occurred. The cervix and vagina were carefully examined for injuries with negative result. The ovum contained a male fœtus of four months' development. The heart and lungs were removed together from the chest. On dividing the superior vena cava a large quantity of air escaped. The heart was of normal size. The right auricle and ventricle were empty except for a small quantity of frothy blood. The pulmonary arteries contained much frothy blood. The left side of the heart did not contain any air bubbles. The mitral valve was slightly thickened, and there was slight atheroma in the first inch of the aorta, but the coronary arteries were normal throughout their whole extent. The lungs and brain were normal. The conclusion come to was that death was due to the entrance of air under pressure into the uterine cavity separating the ovum and entering the uterine sinuses through the open vessels of the placental site. Hence it travelled by the ovarian and uterine veins to the inferior cava, heart, and pulmonary arteries. Probably the air was injected by inserting the nozzle of an enema syringe into the cervix. The fact that no blood was found in the uterine cavity was attributed to high pressure of the air. We may add that in the previous cases blood or bloody discharge was found at the os uteri and vulva.

THE DUTCH AMBULANCE AT THE BALKAN WAR.

Dr. van Ommeren, of the Dutch ambulance in Constantinople, has sent an interesting letter to the *Tijdschrift voor Geneeskunde*, in which he describes the deplorably filthy condition in which patients were brought in. Many who had been operated on were lying in a bath of pus. When, however, these had been cleansed and their dressings changed regularly, abscesses and sinuses being opened, it was wonderful how rapidly they began to recover. He found the Roentgen ray apparatus often very valuable in showing the seat of mischief.

AMONGST the 15 candidates who have been selected by the Council of the Royal Society to be recommended for election as Fellows, Dr. William Bulloch, bacteriologist to the London Hospital, Dr. T. R. Elliott, assistant physician to University College Hospital, Dr. J. S. Flett, of Edinburgh, and Professor Arthur Keith are members of the medical profession.

Professor F. Gowland Hopkins, F.R.S., has been appointed President of the Section of Physiology at the meeting of the British Association to be held in September next at Birmingham.

Sir Arthur Branfoot, K.C.I.E., has handed over the presidency of the Medical Board of the India Office to Sir Richard Havelock Charles, G.C.V.O.

ROYAL DENTAL HOSPITAL.—The annual general meeting of the governors will be held at the hospital, *Leicester-square, London, on Thursday, March 13th*, at 5.30 P.M., Dr. Dudley W. Buxton, a vice-president of the hospital, in the chair.

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[1] THE LANCET, Oct. 19th, 1912, p. 1097

[2] The Australasian Medical Gazette.

THE MEDICAL PROFESSION IN INDIA.

(FROM A SPECIAL CORRESPONDENT)

THE medical profession in India is a heterogeneous body, and it is clear to me that our friends at home do not recognise this It is composed of men of various grades of ability and education, of different class and caste, who, speaking generally, are all actuated by the same high motives and work together in loyalty to the Government and the people Speaking generally again, the official in India is the least self seeking of mortals, he is, as a rule, devoted to his duty, and although he will draw without a blush a hugely inflated T A (travelling allowance) he will repudiate with scorn the very suspicion of a bribe This official honesty is not confined to the European, it extends to all subordinate native officials, who are much touched in their honour by any reflection upon their official probity It is this high feeling which, combined with the semi military organisation of the Government, where every man has his rank and precedence, makes for that smooth and efficient working together of men of all classes, castes, and religions which distinguishes the Indian services and, not least among them, the medical service There is, of course, jealousy and discontent, which is increasing as the native is becoming more and more educated, but up to the present this has not been intruded into official relations, nor has it been allowed to mar the efficiency of the services How long such a state of things can go on it is impossible to say, but we may hope that reforms will be instituted before anything damaging to the services can occur

The Indian Medical Service

Classified according to duties performed, salary received, rank and precedence, all the things which in India really matter, the last not least, we may describe the Medical Service as composed of the following units —

1 The high officials

2 Officers of the Indian Medical Service in military employ A separate civil medical department for India is desired by many

The Appointments of District Surgeons, Chemical Examiners, and Sanitary Commissioners

3 Officers of the Indian Medical Service in charge of civil districts and jails those on sanitary duty as Commissioners and Assistant Commissioners, who have taken up analytical chemical work (chemical examiners), &c, comprising a class who receive salary and allowances as a rule adequate to their needs, and are able in some places occasionally to add to their income by undertaking private work

District surgeons are generally hard worked, they have a large district, and are responsible in a supervisory capacity for the dispensary medical work that is done by subordinates They have much administrative work of a trying character to perform, and are expected to make periodical visits of inspection to the medical institutions and dispensaries within their districts They lead a life very fully occupied by official duties and have little leisure for private practice, the opportunities for which vary in the different districts Any additional income they are able to make in this way must break into the little leisure they can allow themselves and in many places they are driven to undertake private cases from the want of other competent medical aid within a reasonable distance of the villages in the district The district surgeon must be distinguished from the civil surgeon of a town or station who is not infrequently quartered in or near the same town

Chemical examiners may be said to be side tracked They are recruited from specially chosen junior officers who receive an appropriate training and as vacancies occur succeed to senior positions They receive an adequate salary, and where there is a medical college, as in Presidency towns, they hold the professorship of chemistry and draw an additional allowance They are permitted to undertake private analytical work and in this way to add to their income fees which in some towns amount to more than in others Their work is congenial and not too exacting, and they have reason to be well satisfied

Sanitary Commissioners and their deputies have plenty of touring work Their chief duties are to give advice to municipalities on sanitary matters, advice which very often cannot be, or is not, carried out A scheme for the improvement and strengthening of the sanitary service in India has recently come into operation, under a Government of India resolution of May, 1912 The improvements are in the direction of decentralisation of control, of widening the field of recruitment by throwing open the higher posts to fully qualified Indians of proved aptitude, and of strengthening the staff in some of the provinces in which it is at present inadequate Local Government Boards are empowered to select their own Sanitary Commissioners from the officers serving in the *Provincial* (not I M S) sanitary departments under certain conditions, and the larger municipal cities are to have medical officers of health of the first class—i e, officers possessing registrable qualifications and a British Diploma in Public Health The prospects in the sanitary department are seen to be thus improving, and the pay is satisfactory

The Position of Civil Surgeon

4 The civil surgeon of a large town or station holds a coveted position He is in medical charge of the Government officials located in the town, who are entitled to his services during illness, as in some cases are also their wives and children The nature of the service varies according to the rank of the official The civil surgeon is usually assisted by a subordinate officer, and Government servants below a certain grade are entitled only to the services of this subordinate under the supervision, as it were, of the civil surgeon In places where there is no special health officer he is responsible for these duties in addition, but they are usually quite inconsiderable, for where they amount to anything of importance there is usually a special officer The civil surgeon is brought into contact with the unofficial population, both European and native, among whom he is able to carry on a lucrative private practice It is in connexion with the civil surgeon and the Presidency town hospital surgeon, that an agitation has arisen against what is called the monopoly by the Indian Medical Service of civil appointments and private medical practice, which culminated in a memorial to the Secretary of State for India by the independent medical profession of Bombay It would be incorrect to say that there are no grounds for such an agitation, but at the same time it is not my intention to suggest that all the grounds are good or that all the changes suggested in the memorial referred to are desirable in the public interest So far as I am personally aware these positions have been in a few instances abused Where an official is entitled to service it may have been given sometimes reluctantly unless a fee was forthcoming, and when a man or his wife or child is ill he is in no mood to accept unwilling or hurried medical aid, and he will pay and say nothing more about it Again, a man who is entitled to subordinate medical aid in ordinary circumstances will sometimes desire superior service and again he will pay and be silent The customary fee for an officer of the Indian Medical Service to demand and receive is 15 rupees (£1) for a consultation or visit, and the medical cost of a lengthy illness is therefore not inconsiderable It must also be understood that he acts in most cases as a general medical practitioner in attendance on the patient, and not merely in a consultative capacity to his subordinate In a "good" station the civil surgeon is a much occupied man, but *not* only with official duties

Professorial and Hospital Appointments

5 Officers of the Indian Medical Service at Presidency towns, employed as professors at the Medical College and as physicians or surgeons to the general and special hospitals are the real Indian consultants and specialists, though they do not limit themselves to consultative work nor even to their special branches of medicine and surgery These appointments are the plums of the service They fall to specially selected officers who, as a rule, very worthily fill them Their duties as medical offi[illegible] of the day, say, from [illegible] their serious cases in [illegible] is given in the morning during the hospital [illegible] addition they have lectures to deliver at the Medical College, generally in the afternoon Their time is thus seen to be fairly fully occupied, but not so much as to preclude private practice, which, indeed, they cannot avoid, both on account

of their position and reputation in the Presidency, and the constant and urgent calls to which they are subject.

The Provincial Medical Service.

6. The assistant surgeons (Provincial Medical Service). This service is recruited by competition among the medical graduates of the Indian universities. They act in various capacities as health officers of second-class municipal districts, as assistants to district surgeons, to civil surgeons, to professors at medical colleges, to physicians at hospitals, to the chemical examiner, &c., all which posts are also open to the warrant officers of the Indian Subordinate Medical Department. A few members of the Provincial Service hold English registrable qualifications, and are dissatisfied with the bar to their promotion to positions reserved for officers of the Indian Medical Service. They seem to have much justice in their claims for better consideration, and there is no doubt that they will obtain it, and that those who know the Indian Medical Service most intimately would rather that this were so than that any spirit of soreness were fostered.

The Indian Subordinate Medical Department.

7. This is a military department of warrant and non-commissioned officers, but not therefore a department whose officers are confined to military duties. As stated above, the warrant officers of this department share with members of the provincial service some of the most coveted posts in that service. It is recruited locally through *Governmental* competitive examinations of applicants for entry to the medical colleges. After four years' teaching these students are again examined *Governmentally* and drafted into the service. It will be seen that it is not necessary for them to have passed an examination of the medical faculty of a university to obtain their positions. Like the Indian Medical Service, of which this is the subordinate department, it has a military and a civil side. On the military side it is distinct and definite, but on the civil side it merges into the provincial medical service, so far at least as duties are concerned. Wherever he may be, an officer of the I.S.M.D. is under military discipline. This is not the case with an officer of the provincial service in theory, but in practice the difference amounts to very little, for the whole organisation of the Indian Government is semi-military, and discipline and subordination are strictly observed. The I.S.M.D. has, roughly, two divisions. The upper division is composed of men who are presumed to have some white admixture of blood. They possess European names, use the English language as their native tongue, are of the Christian religion, of English dress and habit, English outlook and mind. Some of them are the sons of English soldiers and are English in every respect, the great majority are of mixed English and Indian race, while in the case of a few it is doubtful if at any period in their ancestry occurred an infusion of European blood. They constitute a set of highly efficient and loyal men, who, subject to the limitations of their opportunity and education, are a creditable body of medical practitioners. In civil posts they have opportunity for private practice which they carry on with credit to themselves and satisfaction to their patients. They frequently rise to honorary commissioned rank. On retirement they practise in the larger towns and stations and are the usual medical attendants of the European and Eurasian population of these places, often whether or not their patients are entitled to the gratuitous services of the district surgeon or his subordinate. The lower division of this service is composed of natives, educated, examined, and passed in a similar manner. The standard of education is lower. They rank as non-commissioned officers, but rise to warrant rank corresponding to subadar or jemadar. They are attached in subordinate capacities to hospitals and do most of the outlying district work at dispensaries. When a district surgeon is said to have the medical charge of the population of a district, numbering "1¼ millions of people," it means that he has these subordinate officers scattered over the district at dispensaries which he visits at stated intervals.

The Independent Medical Profession.

8. In addition to the seven classes above described, who are all Government officials, there are also medical practitioners in India who are non-official. These are made up of European medical men, the health officers of the large cities, railway doctors, plantation doctors, doctors at mills and other commercial undertakings, and a large body of native practitioners, with and without European qualifications, who may be termed the independent medical profession of India.

Such, then, are the components of the medical profession in India, that is, of the profession which studies and practises Western medicine, severed by caste, race, and religion, but bound together by the tradition and ethics of the profession, and in spirit, if not in letter, by the Hippocratic oath. This bond of union has been, and will be, denied. One is constantly told that there is no practice of medical ethics in India. It may be that their standards do not conform to those of the British practitioner at home in all particulars. But the reality and the spirit are there, and show their presence in the face of different circumstances. The necessity of the patient is the controlling factor to the physician, and all interests are subordinated to it. This, at any rate, is the impression made upon me, who, understanding the language and manner of life of the Mohammedan and Brahmin or other Hindu, have been enabled to enter their homes and share their thoughts. Of the Hakeem and Vaythian, professors of native medicine, it is not necessary to say anything more than that they still drive a lucrative business.

Consideration of the Question of Reform.

From all that has been said it will be seen that in the main the medical service of India is efficient and satisfactory, but there are certain aspects of it where reform is both desirable and necessary. In considering what is to be the character and extent of reform, the question must be looked at from all points of view. In the first place it must not be forgotten that there is a Governmental aspect—namely, the civil interests of the population at large, and more especially the poorer part of it, and the military exigencies of the English occupation of India. It is stated that it is necessary to have a large reserve of officers who could be made immediately available in time of need, but who are not required for present military purposes, and who are thus economically provided for in civil posts.

If it be granted that this is a paramount consideration, an inquiry might still be necessary as to the numbers in reserve in civil posts, and it may fairly be imagined that the result of such an inquiry would disclose a large excess. In regard to the needs of "the teeming millions of India" it will make no difference whether the district surgeon be a civil or military officer, for they seldom see him unless, being seriously ill, they find their way to the district hospital. Their lesser needs are provided for in the persons of the sub-assistant surgeons at the dispensaries. A civilian surgeon will probably give them as good treatment when they come under his hands as the military man now in office, but he will not give them better. Therefore, from the Government's point of view, the change from a soldier to a civilian in the civil posts seems quite unnecessary.

From the point of view of the white population of India something may be said in favour of a separate civil medical service in India, composed of officers on a graded scale, not subject to sudden and irregular transfer from one station to another. This will apply more especially to the civil surgeon of a station who is the chief private practitioner, and with more force in the case of the non-official population, who are not, like the officials, subject to frequent and sudden transfer.

It is true that the Government are not called upon to provide medical aid for non-official Europeans, who are in most cases well able to pay for it themselves, but there being usually no other medical practitioner in the town of the same skill and standing as the civil surgeon, they are perforce obliged to avail themselves of his assistance. At present private practitioners of the requisite qualifications and standing are not available, but if the powerful competition of the service doctor be withdrawn this could be left to time and circumstance to supply.

We now come to deal with the interests of the officers of the Indian Medical Service and with those of the independent local profession, interests which are opposed to each other. In a moderate and fair-minded article on this subject which appeared in the *South of India Observer*, March 19th, 1910, it was stated that there is ample scope for the employment of indigenous talent in civil appointments not reserved of necessity for the accommodation of officers who are to be held available for army purposes. A large number of native medical men have been educated and thrown upon the country. Their efforts at private practice are frustrated by the existence of the subsidised private practitioner of the Government and they are at present ineligible for the civil posts which he holds Naturally they are dissatisfied It is true that the policy of Lord Morley has caused a few posts to be thrown open to them which were formerly closed but this policy will never be carried out in its fulness of intention until the liberty of private practice is withdrawn from the Indian Medical Service officer

It is stated that if this were done it would at once produce a detrimental effect upon candidature in England for the service The answer to such an argument seems to me to be obvious If the bait held out to candidates for the service is the very problematical one of a lucrative private practice after several years of service and a moderate amount of good luck it is the wrong bait to use Honourable conditions of service, good pay and prospects an ample period of privilege leave at reasonable intervals, are the considerations that should be used to attract men to exchange the security and comfort *of life at home for the numerous disabilities which every* career abroad must possess

There is another complaint against present arrangements which is not without foundation—the distribution of college professorships Under existing arrangements, the professorship of a subject goes with the holding of a particular civil appointment, and as transfers or promotions occur we are met with the spectacle of the professor of materia *medica of yesterday in the chair of surgery to day, or* the professor of jurisprudence or physiology of last week presently conducting the clinical teaching at the Government Maternity Hospital or Eye Infirmary Although the situation thus created is Gilbertian in the extreme it does not lead to such chaos as one might imagine and credit is due to the assistant professors locally qualified men, who are much more faithful to the subjects they profess because they are allowed to sit longer in their chairs Both in the interests of the students and of the public whom they will afterwards serve, it would be better if the principal and professors of the medical colleges were civilian medical men holding with their professorships the corresponding hospital appointments and free to undertake private practice in a consultative capacity At first it would be necessary to draw upon England to supply suitable men for these posts but there is no reason why in course of time in consequence of the better teaching they will receive natives should not become competent to hold them The Indian Medical Service cannot be expected to resign these posts without a strenuous struggle In Bombay the independent' profession has succeeded in gaining recognition at the Grant Medical College and in Madras the experiment is being tried of utilising the services of natives in honorary capacities as house physicians at the hospitals at Rayapuram and Royapettah

There remains only a word to say on the military aspect The regimental hospital system must give way to the station hospital organisation if officers in military employ are to be satisfied A scheme for such a change which showed only a negligible increase in cost was lately presented to the Indian Government but it was refused sanction upon that flimsy pretext alone Opposition of this character cannot be long sustained, and the future of the Indian Medical Service military branch seems hopeful It is tempting to suggest that the Indian Medical Service on its civil side should be swept away and replaced by a Civil Medical Service, but there are grave objections to such a proposal and so long as military exigencies exist it will never be carried The most *that can be hoped for is* a curtailment of the list of civil posts reserved for officers of the Indian Medical Service The absorption of the military branch of the service by the Royal Army Medical Corps is another proposal which might remove many anomalies but would doubtless create others no less real and complicated

If a fair proportion of civil posts were thrown open to the indigenous profession, if in regard to others of a higher status the present bar of entry were removed and if except by special permission individually granted, the privilege of private practice were withdrawn from Indian Medical Service officers *in exchange for more appropriate compensations* all parties might be more satisfied and none I consider would be unjustly treated but I can hardly suppose that the Indian Medical Service of whose admirable work and splendid traditions I have knowledge, will approve of the *suggestions*

ROYAL MEDICAL BENEVOLENT FUND.

His Majesty the King was graciously pleased last year to confer on the fund the title of Royal To celebrate this event it has been arranged to hold a dinner of those interested in the Fund and its Guild—both ladies and gentlemen

H R H Prince Arthur of Connaught has kindly consented to preside over the dinner, which will take place on Wednesday April 30th at the Hotel Cecil The following is the first list of stewards —

Adeline Duchess of Bedford
Aldrich Blake Miss L B
Allbutt Sir Clifford
Bailey Mr Cozens
Ballance Mr C A
Barling Mr Gilbert
Barlow Sir Thomas
Beale Dr Clifford
Berry Mr James
Bowen Dr W H
Bradford Sir J Rose
Bramwell Dr B
Broadbent Sir John and Lady
Browne Dr H Langley
Bruce Dr Ironside
Bruce Dr J Mitchell
Bruce Porter Dr H E B and Mrs
Brunton Sir Lauder
Buchanan Dr W
Burnet Sir Robert W
Bury Dr Judson
Buttar Dr C
Buzzard Dr F F
Byam Dr S H
Carr Dr J Walter
Edwards Mr F Swinford
Fagge Mr C H
Fairbank Mr J S A
Fenwick Mr E Hurry
Ferrier Sir David
Fowler Sir J Kingston
Fripp Sir Alfred and Lady
Fuller Mrs
Galloway Dr James
Gask Mr G E
Godlee Sir Rickman
Godson Dr Clement
Goodhart Sir James
Gordon Dr John
Gould Sir Alfred Pearce
Griffith Dr Walter
Hall Dr F de Havilland
Hardey Mr E F
Harris Dr and Mrs Wilfred
Hills Dr A Phillips
Hutchinson Mr Jonathan
Hutchison Dr R and Mrs
Katherine Duchess of Westminster
Kidd Dr Frank
Lockwood Mr C B
Luff Mrs
Lynch Dr J Roche
MacAlister Sir Donald.
McGavin Mr L H
Makins Mr G H
Manser Dr F
Marsh Professor Howard
Morgan Mr J H
Morgan Dr H M
Morison Mr A E
Morris Sir Malcolm
Moses Mr A H
Murray Mr George
Needham Dr I
Nevins Dr J I
Ormerod Dr J A
Osborn Dr F A
Osler Sir William
Page Mr Herbert
Phillips Dr Sidney
Powell Sir R Douglas
Poynton Dr F J
Reid Sir James
Rice Dr George
Rolleston Dr and Mrs H D
Romer Mr Frank
Rose Dr Cooper
Ross Sir Ronald
Rutherford Miss F F
Sargent Mr W E
Savage Sir George
Scharlieb Mrs I M
Scharlieb Mrs Mary.
Shadwell Dr A
Shears Dr C H B
Sheehy Mr W H P
Sherren Mr J
Simon Sir R M
Simpson Dr A R
Smith Dr C
Smith Dr F
Soloman Dr C E
Stansfeld Dr A L
Steele Dr W H
Steeves Mrs
Stiles Mr H J
Still Dr G F
Strugnell Dr F W
Swainson Mr J M G
Swallow Dr
Swift Mr Rigby
Uhthoff Dr J C
Verrall Dr James
Voelcker Dr A F
Warburton Mrs
Waterhouse Mrs
West Dr and Mrs Samuel
White Dr and Mrs Hale
Will Dr J Kennedy
Willcox Dr W H
Williams Sir John
Wood *Dr G B*
Yeo Dr I Burney
Young Mr Parker

Communications relating to the dinner may be addressed to Mr G Bethell 11, Chandos street Cavendish square W, and subscriptions sent to the treasurer, Dr Samuel West 15 Wimpole street, W

At the February meeting of the committee 23 cases were considered and grants amounting to £222 voted to 20 of the applicants Appended is an abstract of the cases relieved —

Widow aged 63 of M R C S No income and supplements slight assistance from children by taking boarders Relieved twice £22. [illegible] aged 63 of M R C S Three children aged 13 to [illegible] by letting lodgings [illegible] aged 52 Met with [illegible] been incapacitated [illegible] to help Voted

£12.—Widow, aged 56, of L.R.C.P., L.R.C.S. Irel. Unprovided for at husband's recent death, and hopes to support herself by receiving boarders. Children only able to give very slight help. Voted £10.—Daughter, aged 51, of L.R.C.P. Irel. Has always been in feeble health, and is now incapacitated by a chronic complaint for which she has been promised admission to a hospital. Voted £5 now and £5 on leaving the hospital.—Daughter, aged 67, of late M.D. Edin. Used to have a small income, but was obliged to mortgage the property from which it was derived, and now receiving nothing owing to foreclosure by the mortgagee. Voted £12.—Daughter, aged 65, of late M.R.C.S. Was comfortably provided for by her father, but lost everything through the dishonesty of her trustee, and is now dependent on a small pension from another society. Relieved twice, £36. Voted £12.—Daughter, aged 62, of late M.R.C.S. Has had a school for several years, but now owing to competition finds it very difficult to meet her expenses and is obliged to maintain two mentally afflicted sisters. Relieved once, £10. Voted £12.—Deserted wife, aged 46. Since husband's disappearance a few years ago has supported herself in different ways, but is now in difficulties which she quite hopes will be temporary. Relieved once, £10. Voted £10.—Widow, aged 70, of M.R.C.S. Since husband's death 30 years ago has kept a lodging house, but now owing to failing sight and chronic rheumatism finds it very difficult to do the necessary work. Only income a few shillings a week from savings which have been invested. Relieved once, £12. Voted £5 and to be advised to apply for an Old Age Pension.—Daughters, aged 60 and 55, of late M.R.C.S. Entirely dependent on letting lodgings and both in feeble health. Relieved eight times, £96. Voted £12.—Daughter, aged 66, of late M.R C.S. Was fairly provided for at father's death but made most unfortunate investments which now yield only about 5*s.* a week. Relieved twice, £36. Voted £12.—Daughter, aged 44, of late F.R C.S. No income and health so indifferent that it is impossible to keep any post even when obtained Relieved 14 times, £117. Voted £12.—Widow, aged 63, of M.R.C.S. Quite unprovided for at husband's death several years ago and owing to a deformity has never been able to obtain regular work. Slight help from children. Relieved nine times, £106. Voted £12.—Daughter, aged 61, of late M.R.C.S. Has suffered for many years from a chronic complaint and been obliged to spend her capital both for treatment and maintenance. Relieved twice, £24. Voted £12.—Daughter, aged 56, of late M.R.C.S. Health too feeble for anything but light work and has to help support two sisters who are unfitted for any occupation. Relieved four times, £72. Voted £18.—Widow, aged 64, of M.D. Lond. After husband's death, about ten years ago, started a boarding-house at a seaside place, but lost all her capital, and is now unable to obtain suitable employment. Relieved twice, £24. Voted £12.—Widow, aged 57, of L.R.C.P. Edin. Slight help from children and lets lodgings. Relieved three times, £32. Voted £2, and case to be reconsidered.—Widow, aged 44, of M.B., C.M. Glasg. Quite unprovided for at husband's death a year ago, after a long illness, and obliged to endeavour to keep a home together because of her three youngest children, aged 10 to 4; slight help from elder children. Relieved once, £12. Voted £20.—Daughter, aged 35, of L.S.A. Has been offered a situation abroad, but requires a little help for unavoidable expenses. Relieved once, £10. Voted £5.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE quarterly meeting of this association was held at the Darenth Industrial Colony, Dartford, on Feb. 20th, under the presidency of Dr. J. G. SOUTAR.

Presidential Remarks: the Mental Deficiency Bill.

During the morning members inspected the various centres of activity in the colony, including the female and male workshops and wards for adult imbeciles, for the feeble-minded section, and for imbeciles under 16 years of age, three separate classifications of cases. At the luncheon which followed the PRESIDENT thanked, on behalf of the association, Mr. E. H. Helby, the chairman of the council committee, and Dr. A. Rotherham, medical superintendent, for the cordial welcome which had been extended and the interesting manifestations of good training which were so abundant in the institution. What was to be seen at Darenth was an eye-opener to many, even of those who knew something of such work. He thought that if Dr. Rotherham could only see his way to admit, for the remainder of their short recess, the members of the Cabinet and others in the House, to the institution, that House would rapidly pass, through all its stages, the Mental Deficiency Bill, for they would see that it would confer upon thousands of neglected persons the boons received by the inmates of Darenth Colony. He regarded it as one of the centres of education in the country, and much of that done here might well be copied by the public schools of the country, for here the limitations and potentialities of the pupil were ascertained, and the education directed accordingly. What tears, difficulties, and miseries would thus be saved!—Dr. ROTHERHAM briefly replied to the President's remarks, praising highly the capacity and efforts of the instructional staff, who were all skilled in their work before they took up the posts.—Mr. HELBY admitted that during the last nine years he had found great delight in doing what he could for the special class of case under care and training in this colony, and in the interests of the ratepayers of London. That it had been successful was due to the continuous and harmonious efforts of the medical and instruction staff. A few weeks ago he was a member of a deputation which attended before the Home Secretary. It was received by Mr. Ellis Griffiths, and he told that gentleman that if only a committee of the House of Commons would spend three hours at Darenth Colony it would do more good than three or four weeks' talking by people who, for the most part, had no real practical knowledge of the subject. He concluded by reading the following extract from the last report of the Commissioners in Lunacy, issued a few weeks ago: "We cannot conclude without expressing our pleasure and satisfaction with all we saw and learned during our visit of inspection, and we desire to record our impression that the work of the institution is being carried out on well-planned lines and with much skill and thoughtfulness in organisation, and that the object in view—namely, the adequate training and occupation of the imbecile class—is being attained in a most satisfactory and gratifying manner."

The meeting passed the following resolution on the subject of the detention of criminal lunatics in county and borough asylums:—

> That the Parliamentary Committee consider it is most undesirable that criminal lunatics be sent to county and borough asylums, and recommend to the council that the Association be asked to express this opinion to the Home Secretary.

A number of members were appointed to form a deputation on the subject.

The PRESIDENT alluded, in fitting terms, to the decease of Dr E. M. Courtenay (many years inspector of lunatics for Ireland), Mr. Joseph Bayley (48 years superintendent of St. Andrew's Hospital, Northampton), and Mr. S. G. Longworth (Distrct Asylum, Melton, Suffolk), and the meeting authorised messages of condolence to the respective relatives.

Treponema Pallidum in the Brain in General Paralysis.

A very important communication by Dr. GEORGE M. ROBERTSON, of Edinburgh, on a demonstration by Noguchi of the Treponema Pallidum in the Brain in cases of General Paralysis, was communicated to the meeting by Dr. WINIFRED MUIRHEAD. It showed that Noguchi found the spirochæte of syphilis in the brains of 12 out of 70 cases of general paralysis of the insane. The discovery was held to lay at rest much that had long been debateable. A section of the cortex, sent from Dr. Noguchi at Johns Hopkins Hospital, Baltimore, was on view under Dr. Muirhead's care. In all the cases the organisms seemed to have wandered into the nerve tissues; they were not found in the vessel sheaths.

Assistant Medical Officers in Asylums.

Dr. J. BEVERIDGE SPENCE read a paper entitled "Assistant Medical Officers in Asylums." He said that he had been for some time of the opinion that something should be done to improve the position of these officers; therefore he had been in full accord with the work of a committee of the Association on the matter, which had issued an interim report advocating a more advanced education for applicants for these posts. On the question of the facilities to continue study of psychological science at some centre—leave being granted for that purpose—the money factor had to be considered. It would perhaps be really necessary to increase the rate of remuneration in order to attract to the specialty the right kind of man, especially now that in other branches of the profession young men were advertised for at salaries of £400 and £500, with greater individual liberties than those known to assistant medical officers of asylums. In order to collect information on the subject, he had sent out forms to the superintendents of 94 asylums, and he gratefully acknowledged the courteous response of 92 of those gentlemen. Of these, 17 asylums had only one assistant medical officer. The average minimum salary of the senior assistant medical officer was £224, and the average maximum £309, exclusive of emoluments; the lowest being £150, rising to £200, and the highest £330, with a maximum of £430. The medical officers junior to the first seemed to vary from an [illegible] average maximum of £208; [illegible] £330, and the lowest £130, r [illegible] he found difficult of useful tabulation. In nearly every instance the medical superintendents approved of their senior assistant being a married man. Only eight regarded the idea unfavourably, while a few thought permission might be granted if accommodation were provided. There seemed, however, to be a feeling against this permission being granted to the second assistant. In 23 asylums there were now married assistant medical officers, while in 63 institutions these officers were not married. Dr. Spence then proceeded to consider the question of accommodation for married assistant medical officers, under three heads: (1) those who had rooms in the asylum main building; (2) those occupying a house on the asylum estate; (3) those who rented a house outside the asylum grounds; and made a comparison of the conditions and salaries of assistant medical officers of asylums with those of somewhat similar officers in prisons, to the advantage of the latter; and he counselled the continued efforts of the association to better the lot of the former, for it certainly was in sympathy with the aspirations of those gentlemen. He personally was in favour of an advance in the average salaries of assistant medical officers of asylums.

Darenth and its System of Industrial Training.

Mr. F. O. SPENSLEY, senior assistant medical officer, contributed a paper on this subject. He said that 40 years ago, at Hampstead Asylum, under the Metropolitan Asylums Board, an attempt was made to give the patients under 16 years of age [illegible] in schools. [illegible] he building [illegible] s. In 1874 the Board purchased a site for the separate treatment of imbecile children, meantime using the London Orphan Asylum at Clapton for the purpose, and Dr. Fletcher Beach was its first medical superintendent. In 1876 Darenth Training School was built. In the first year the patients' labour realised £66 5*s.* 7*d.* In order that the training might not be thrown away it was decided to build adjacent to the schools two blocks for 120 males and 120 females, adults, the Local Government Board insisting, however, on the elimination of the hopelessly "incurable," a term which the subcommittee altered to "unimprovable." Subsequently these two wards grew into the adult asylum, with 1052 beds. The author traced the growth of the institution to its present dimensions and many-sided activity, including mat-making, brush-making, wire drawing, pan work, envelope and paper bag making, tin-smith work, carpentry, book-binding, and printing. Drilling of the patients, of both sexes, was in full swing, to the obvious improvement of their physique and deportment. 835 out of the total of 1064 adult imbeciles were now undergoing industrial training. At present a wide and clearly marked line was drawn between the inhabitants of the pavilions and those of the remainder of the institution. They were admitted classified as feeble-minded, and were to be kept quite apart from the certified patients. It would, the author submitted, be difficult to find a better illustration of the impossibility of determining an arbitrary line of demarcation between an imbecile and a feeble-minded person. Among the so-called feeble-minded in the institution were many patients whose mental state was far below that of many of the certified imbeciles. He sketched a different classification, and described the methods pursued to encourage each patient to do his best, and therefore improve as far as possible. Mr. Bickmore was an admirable example of what a crafts-master of such an institution should be, and each tutorial member of the staff was an efficient instructor. Last year the industries realised £12,367, an increase of £8000 per annum in five years.—Dr. G. E. SHUTTLEWORTH, in discussing the paper, alluded to the transfer from Darenth to Rochester House, Ealing, of "*improvable*" cases in 1900 to 1904 for the purposes of industrial training. He agreed that there was very little difference between the high-grade imbecile and the ordinary feeble-minded person.—The discussion was continued by Dr. POWELL, Dr. R. L. LANGDON-DOWN, Dr. CORNER, and Dr. FLETCHER BEACH, and Mr. SPENSLEY replied.

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Kent County Council.—Dr. W. J. Howarth's report of the year 1911 is among those which have a permanent value, apart from statistics, in the building up of the system of medical inspection and medical treatment. The year's record shows not only good work done but solid foundations laid for better. District nurses have been engaged to do, chiefly, "following-up" work. A whole-time nurse has been appointed to stimulate the adoption of a higher standard of cleanliness, and reinspection has been made definite and certain by the institution of a medical log-book of defective children with a continuous record of observations by inspectors and teachers. The attendance officers also assist by arranging for excluded children to attend medical inspections, and a nurse attendance officer has proved of considerable value. The actual work of inspection is carried out by a staff of whole-time and part-time officers arranged so as to allow of its transfer to whole-time medical officers of health as occasion presents. The part-time inspectors are paid a fee of 1*s.* per inspection, *plus* £1 for every 1000 acres in the area and £1 per annum for each school. Total payment per child must not exceed 3*s.* per child inspected or 4*s.* in the Isle of Sheppey. The inspectors arrange their own time for visiting the schools, but give a clear week's notice to the school medical officer of appointment suggested. The cost per inspection works out at 1*s.* 10*d.* for the salaried men and 1*s.* 5*d.* for the part-time men in urban districts, and 2*s.* 9*d.* per child in rural districts. The higher rate in rural districts is due to the fewer children who are examined. Interesting tables are given showing the divergencies between the opinions of inspectors with regard to the existence of defects needing attention. Records of inspections by 20 officers are given, and with regard to teeth the percentage (urban districts) stated to be requiring treatment varies from 27·1 in one case to 0·64 in another, and in regard to visual defects (rural districts) from 15·3 per cent. in one case to 2·9 per cent. in another. To ensure greater uniformity the school medical officer proposes to arrange a conference of inspectors for the discussion of these variations. While no attempt has been made by the Education Committee to provide for treatment by means of clinics or by arrangements with medical practitioners or hospitals, a fair proportion of children have been helped to treatment by following-up methods and the work of care committees. An outbreak of scabies, however, was successfully tackled by the nurse acting under the supervision of the part-time school doctor. Of the cases treated it is interesting to note that more than one-third were dealt with by local practitioners. The steps taken to further medical treatment have included the issue of a circular by the Education Committee inviting the coöperation of school managers, and a meeting of the school managers of the Sheerness schools and the school medical officer to discuss this circular, and a letter from Lord Harris offering substantial help. The possibility of treatment has also been forwarded by the defining of means available to give effect to proposals for treatment by the Education Committee.

Manchester City Council.—The report of the school medical officer (Dr. A. Brown Ritchie) for 1911 is included as a section in the general report of the Education Committee, and constitutes about one-third of a very imposing document crammed with information and suggestive material for future work. It seems a pity that the great mass of these reports cannot in some way be boiled down to facts and figures necessary for each locality's work, and the valuable ideas and suggestions for general application (which emerge from the work of every school medical officer) made the common property of all. From this Manchester report many excellent suggestions emerge, but need a large amount of digging out of the framework (laid down by the Board of Education) in which they are embedded. We make the suggestion with diffidence that the report should be in two sections: facts and figures for local work, and facts, figures, and suggestions helpful to other authorities. Manchester pays special attention to infectious diseases; measles, German measles, and whooping-cough have now been made compulsorily notifiable, and one assistant school medical officer is almost entirely employed in infectious diseases work. The other assistants are engaged every day of the week (except Wednesday, which is spent in office work) from 9.15 to noon and from 2 to 4 on routine inspection; 4 to 4.30 P.M. and any time not filled in by routine is devoted to special cases. It would surely be better for the efficiency of the work to vary this cast-iron schedule. During the year under review ringworm cases have been allowed to attend school if having the hair cut short, wearing washable caps, and undergoing medical treatment and submitting to periodical inspection by the school medical officer. The duration of the disease has been shortened, and no case of infection to another child in school was discovered. Over 600 children with ringworm attended school and made 4051 attendances at the observation clinic. Manchester is particularly active in providing for special classes of defective children; not only mentally defective, blind, deaf, and crippled children are dealt with, but also consumptive, epileptic, and stammering cases. In the education section of the report an account is given of the institutions concerned, illustrated from photographs. Six classes for stammerers were held during the year, attended by 58 boys and 5 girls. A "fair number" of successful cases are reported. Ten boys underwent a second course, and there is a waiting list of applicants for treatment. Manchester's activity in special departments is reflected in special reports from school doctors, one on "Backward Children" (Dr. H. Herd) is a very suggestive study. The children are divided into three groups, the first marked by serious physical weakness or disease (including sense defects); the second mentally backward *per se* (some of these latter were physically above the average); the third with physical and mental defects. Among other special reports is one by Dr. E. F. M. Neave on "The Effect of Environment on Physique." This is studied from the height and weight statistics of 500 girls and 500 boys in poor, medium, and good schools, and also from these statistics applied to schools in a central district inside a circle of one mile radius, to schools outside this but within a circle of two miles radius, and to a third district within a circle of four miles. The respective densities of population per acre are 81·23, 51·52, and 13·51. The physical differences in the children are very striking and well displayed on a map of the city and a bold chart of the different groups of children dealt with.

Warwickshire County Council.—Medical inspection in Warwickshire is controlled by Dr. A. Bostock Hill, school medical officer, and largely carried out in the three divisions into which the county is divided by three school doctors who are also assistant medical officers of health. Over 1500 visits were made to the schools. Nine school nurses are also employed, and they are also health visitors and so deal not only with the school child found defective, but with the whole household, "from the point of view of the prevention of disease, as well as its palliation." Further increase in the nursing staff is contemplated. A good deal of treatment has been secured by the coöperation of hospitals. The school medical officer lays great stress on the maintenance of the self-reliance and independence of the parents. It is noted that some schools have no water-supply either for washing or drinking. An interesting point is the occurrence of 118 cases of goitre, 107 of which were discovered at routine inspection. Unfortunately the chief statistics for the county (number of schools, children on register, &c.) are not given in a handy form, and consequently comparison of statistics is difficult. A useful hint which might be widely taken up is that for the institution of "ventilation drill."

Northamptonshire County Council.—During 1911 a considerable step forward in Northamptonshire was made by the holding of a conference of representatives of the managers of public elementary schools and members of the education committee, and the consideration there of medical treatment from various points of view. Children with defective vision are now offered treatment by the assistant school medical officer (Dr. J. H. Mason), under the supervision of Dr. H. L P. Hulbert (school medical officer), and spectacles are supplied, on contract, at from 2*s.* to 2*s.* 6*d.* a pair. Of all cases needing treatment (including visual defects), 71·4 per cent. in urban districts and 65·1 per cent. in rural districts obtained this treatment, but the treatment of cases needing operation for removal of tonsils and adenoids was not satisfactory.

Bedfordshire County Council.—No arrangements for treatment otherwise than persuasion by the school medical officer (Mr. W. J. Butcher) is adopted in Bedfordshire, and cases appeared to be "followed up" only by inquiry from the children by the head teacher. Figures so obtained are, of course, not to be relied upon. But a nurse school attendance officer and health visitor has been appointed to deal with following up and with verminous children. Sanitary conditions in some schools are very primitive and in others no facilities for washing exist. Medical inspection appears to be at an early stage of its development in Bedfordshire.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,764 persons, 8894 births and 6178 deaths were registered during the week ended Saturday, March 1st. The annual rate of mortality in these towns, which had been 17·2, 17·2, and 17·3 per 1000 in the three preceding weeks, further rose to 18·0 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 16·8, against 17·4 per 1000 in London during the same period. The death-rates last week in the several towns ranged from 8·6 in Wallasey, 9·6 in Ilford, 10·0 in Ealing, 10·1 in Acton and in Great Yarmouth, and 10·5 in Smethwick, to 27·6 in West Hartlepool, 30·9 in Stockton-on-Tees, 32·0 in Swindon, 32·5 in St. Helens, and 33·2 in West Bromwich.

The 6178 deaths from all causes in the 96 towns were 247 in excess of the number in the previous week, and included 506 which were referred to the principal epidemic diseases, against 458 and 482 in the two preceding weeks. Of these 506 deaths, 263 resulted from measles, 78 from whooping-cough, 76 from infantile diarrhœal diseases, 52 from diphtheria, 29 from scarlet fever, and 8 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·5 per 1000, against 1·3 and 1·4 in the two preceding weeks. The deaths attributed to measles, which had been 200, 217, and 243 in the three preceding weeks, further rose to 263 last week, and caused the highest annual death-rates of 1·7 in Birmingham, 2·0 in Sheffield, 2·2 in Bath and in Bootle, 2·9 in Eastbourne, 4·6 in Plymouth and in Wigan, 9·1 in West Bromwich, and 10·5 in St. Helens. The deaths referred to whooping-cough, which had been 78, 70, and 78 in the three preceding weeks, were again 78 last week, and included 28 in London, 4 in Liverpool, and 3 each in Bristol, Stoke-on-Trent, Salford, Rotherham, and Newcastle-on-Tyne. The fatal cases of diarrhœa and enteritis (among children under 2 years of age), which had increased from 65 to 81 in the four preceding weeks, declined to 76 last week; 23 deaths were registered in London, 8 in Liverpool, 7 in Birmingham, 4 in West Bromwich, and 3 in Leicester. The deaths attributed to diphtheria, which had been 45, 53, and 51 in the three preceding weeks, were 52 last week, and included 8 in London and 3 each in Stoke-on-Trent, Liverpool, Barrow-in-Furness, and Rhondda. The deaths referred to scarlet fever, which had declined from 29 to 19 in the three preceding weeks, rose to 29 last week; 7 deaths were recorded in Birmingham, 4 in London, and 2 each in Bradford, Sheffield, and Aberdare. The fatal cases of enteric fever, which had been 18, 16, and 10 in the three preceding weeks, further fell to 8 last week, of which number 2 were registered in London.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily declined from 2112 to 1667 in the nine preceding weeks, had further fallen to 1659 on Saturday last; 183 new cases were admitted during the week, against 209, 196, and 180 in the three preceding weeks. These hospitals also contained on Saturday last 919 cases of diphtheria, 881 of measles, 316 of whooping-cough, and 44 of enteric fever, but not one of small-pox. The 1635 deaths from all causes in London were 59 in excess of the number registered in the previous week, and were equal to an annual death-rate of 18·8 per 1000. The deaths referred to diseases of the respiratory organs, which had been 373, 443, and 387 in the three preceding weeks, rose to 453 last week, and were 158 in excess of the number in the corresponding week of last year.

Of the 6178 deaths from all causes in the 96 towns last week, 196 resulted from various forms of violence and 499 were the subject of coroners' inquests. The causes of 46, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, Nottingham, and in 71 other smaller towns. The 46 uncertified causes of death last week included 14 in Birmingham, 10 in Liverpool, and 2 each in London, Stoke-on-Trent, Warrington, Sunderland, South Shields, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,260,200 persons at the middle of this year, 1124 births and 895 deaths were registered during the week ended Saturday, March 1st. The annual rate of mortality in these towns, which had been 20·8, 20·4, and 18·7 per 1000 in the three preceding weeks, rose to 20·7 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 19·4, against 16·8 per 1000 in the 96 large English towns. Among the several Scotch towns the death-rates last week ranged from 15·0 in Kilmarnock, 15·6 in Leith, and 16·3 in Perth, to 22·9 in Ayr, 23·9 in Dundee, and 24·1 in Aberdeen.

The 895 deaths from all causes were 87 in excess of the number in the previous week, and included 80 which were referred to the principal epidemic diseases, against 65 and 77 in the two preceding weeks. Of these 80 deaths, 55 resulted from whooping-cough, 7 from measles, 7 from infantile diarrhœal diseases, 5 from diphtheria, 4 from scarlet fever, and 2 from enteric fever, but not one from small-pox. These 80 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8 per 1000, against 1·5 in the 96 large English towns. The deaths attributed to whooping-cough, which had been 52, 39, and 50 in the three preceding weeks, rose to 55 last week, and included 41 in Glasgow, 5 in Edinburgh, 2 in Leith, 2 in Motherwell, and 2 in Clydebank. The deaths referred to measles, which had been 5, 3, and 7 in the three preceding weeks, were again 7 last week, of which number 4 were registered in Glasgow. The fatal cases of diarrhœa and enteritis (among infants under two years of age), which had been 10, 14, and 9 in the three preceding weeks, further declined to 7 last week; 3 deaths were recorded in Glasgow and 2 in Dundee. The deaths attributed to diphtheria, which had been 12, 8, and 7 in the three preceding weeks, further fell to 5 last week, and comprised 2 in Glasgow, 2 in Aberdeen, and 1 in Dundee. The 4 deaths from scarlet fever, 2 of which occurred in Glasgow, were slightly in excess of the average in recent weeks; the 2 fatal cases of enteric fever were registered in Glasgow.

The deaths referred to diseases of the respiratory system in the 16 Scotch towns, which had declined from 221 to 162 in the four preceding weeks, rose to 180 last week; 44 deaths were attributed to different forms of violence, against numbers declining from 34 to 23 in the three preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of this year, 693 births and 532 deaths were registered during the week ended Saturday, March 1st. The annual rate of mortality in these towns, which had increased from 20·4 to 24·1 in the four preceding weeks, declined to 23·1 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these Irish towns averaged 21·8 per 1000; in the 96 large English towns the corresponding death-rate did not exceed 16·8, while in the 16 Scotch towns it was equal to 19·4 per 1000. The annual death-rate recorded in the several Irish towns last week was equal to 26·9 in Dublin (against 18·8 in London and 21·7 in Glasgow), 23·4 in Belfast, 28·6 in Cork, 10·2 in Londonderry, 16·2 in Limerick, and 13·3 in Waterford, while in the remaining 21 smaller towns the mean rate did not exceed 14·5 per 1000.

The 532 deaths from all causes in the 27 Irish towns were 22 fewer than the number in the previous week, and included 41 which were referred to the principal epidemic diseases, against 35 and 37 in the two preceding weeks. Of these 41 deaths, 16 resulted from measles, 11 from whooping-cough, 9 from infantile diarrhœal diseases, 2 from diphtheria, 2 from enteric fever, and 1 from typhus, but not one from small-pox or from scarlet fever. These 41 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8 per 1000; in the 96 large English towns the corresponding rate was 1·5, and in the 16 Scotch towns 1·8 per 1000. The deaths attributed to measles, which had been 18, 10, and 11 in the three preceding weeks, rose to 16 last week, and included 8 in Newry and 5 in Belfast. The deaths referred to whooping-cough, which had steadily increased from 1 to 8 in the four preceding weeks, further rose to 11 last week; 6 deaths were registered in Dublin and 2 in Waterford. The 9 fatal cases of infantile diarrhœa and enteritis, 6 of which occurred in Dublin, were equal to the average in the three preceding weeks. Of the 2 deaths referred to diphtheria, 1 was recorded in Dublin and 1 in Belfast; the fatal cases of enteric fever and of typhus occurred in Dublin.

The deaths referred to diseases of the respiratory organs, which had been 104, 115, and 142 in the three preceding weeks, were 143 in the week under notice. Of the 532 deaths from all causes, 164, or 31 per cent., occurred in public institutions, and 6 resulted from different forms of violence. The causes of 15, or 2·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeons: H. C. Whiteside to the *Suffolk*, temporary; and W. N. L. Cherry to the *Victory*, additional, for disposal. Surgeon: F. G. Hitch to Portland Hospital.

ROYAL ARMY MEDICAL CORPS SCHOOL OF INSTRUCTION.

Major Charles E. P. Fowler, R.A.M.C., to be an Instructor, vice Lieutenant-Colonel A. R. Aldridge, C.S.I. (dated Feb. 17th, 1913).

ROYAL ARMY MEDICAL CORPS.

Major Thomas C. MacKenzie, D.S.O., from the seconded list, is restored to the establishment (dated March 1st, 1913).

Captain James H. R. Winder to be Major (dated Feb. 27th, 1913).

Lieutenant Wilfred W. Treves is seconded for service under the Foreign Office (dated Jan. 7th, 1913).

Colonel F. J. Jencken, Assistant Director of Medical Services to the Colchester District, has been selected for appointment as Director of the Eastern Command, Royal Army Medical Corps, Staff Tour, to be held in the vicinity of Aylesbury. Colonel H. J. Barratt, Assistant Director of Medical Services to the Allahabad and Fyzabad Brigades of the Eighth (Lucknow) Division, has been selected for appointment as Assistant Director of Medical Services to the Bareilly, Garhwal, and Dera Dun Brigades of the Seventh (Meerut) Division of the Northern Army in India.

Lieutenant-Colonel R. J. W. Mawhinny, on arrival in India for a tour of duty, has been selected for appointment to hold charge of the Military Hospital at Jullundur. Lieutenant-Colonel R. J. Copeland has been transferred from Newcastle-on-Tyne to the Military Hospital at York. Lieutenant-Colonel J. W. Bullen has taken up duty at Meerut Cantonment on transfer from the Military Hospital at Agra. Lieutenant-Colonel J. S. Green, on completion of a tour of service in charge of the Military Hospital at Bangalore Cantonment, has been selected for appointment to hold charge of the Military Hospital at Fermoy. Lieutenant-Colonel H. M. Thompson, commanding the Military Hospital at Lucknow Cantonment, has been granted leave of absence home from India. Lieutenant-Colonel A. R. Aldridge has been appointed to the Eastern Command for duty at the Royal Herbert Hospital, Woolwich.

Major N. Faichnie has been transferred from the Military Hospital at Mhow to Delhi Cantonment and appointed to command the Military Hospital. Major D. J. Collins, lately specialist sanitary officer to the Dublin District, has taken up duty at the Military Hospital, Bangalore. Major J. G. Gill has been appointed to the Military Hospital at Rangoon on transfer from Maymyo Cantonment. Major S. G. Butler has been selected for appointment as Specialist in Operative Surgery at the Military Hospital, Curragh Camp. Major W. Power, on return home from Jamaica, tour expired, has been appointed to the Eastern Command for general duty. Major J. L. Jones has been selected for appointment to hold charge of the Military Hospital at Calicut, Madras Presidency. Major E. McDonnell, in charge of the Military Hospital at St. George's, Bermuda, has returned home, tour expired, and has taken up duty in the Eastern Command. Major T. B. Unwin has been transferred from the Military Hospital at the Guards' Depôt, Caterham, to London. Major F. W. Begbie has been transferred from Kamptee to the Military Hospital at Mhow Cantonment, and appointed Specialist in Operative Surgery to the Fifth (Mhow) Division of the Southern Army in India. Major J. Hennessy has left the Military Hospital at Cosham and embarked for a tour of service in India. Major E. B. Steel has been appointed to the Medical Charge of the Garrison at Exeter and Recruiting Medical Officer, in succession to Lieutenant-Colonel H. P. Elkington, transferred to Shorncliffe. Major J. S. Bostock has been transferred from the Military Hospital at Ranikhet to Agra Cantonment. Major J. H. Robinson has taken up duty in the First (Peshawar) Division at Headquarters on transfer from the Presidency Brigade, Calcutta. Major F. W. Cotton has left Fleetwood and embarked for a tour of service in India. Major A. M. MacLaughlin, lately specialist sanitary officer to the Scottish Command, has been appointed to hold charge of the Military Hospital at Madras Cantonment. Major R. J. Blackham, Honorary Surgeon to H.E. the Viceroy and Governor-General of the East Indies, has been placed under orders for transfer from the First (Peshawar) Division to the Third (Lahore) Division, and will take up the duties of Officer Commanding the Station Hospital, Jutogh, Simla Hills, on completion of special duty on H.E. the Viceroy's personal staff.

Captain W. H. S. Burney has been transferred from Donard to the Military Hospital at Attock Cantonment. Captain A. S. Williams, in charge of the Military and Cantonment General Hospital at Khanspur, has been appointed to the Dublin District. Captain J. W. S. Seccombe has been transferred from Taunton to the Military Hospital at Devonport. Captain F. W. M. Cunningham has taken up duty at the Military Hospital at Sialkot, on transfer from Kuldana, Murree Hills District. Captain R. E. W. Newman has been appointed for duty on the transport s s. *Dongola*, which left Karachi for Southampton on Feb. 26th with time-expired troops. Captain G. P. A. Bracken, in charge of the Military Hospital at Malapuram, Madras Presidency, has arrived home on six months' leave of absence from India. Captain F. W. W. Dawson has joined for duty at Ambala. Captain A. E F. Hastings has been transferred from the Military Hospital at Chatham to Sheerness. Captain T. W. O. Sexton has arrived home from the South African Command at the expiration of his tour of service. Captain R. H. Nolan has been appointed to the Scottish Command for duty. Captain G. F. Rudkin, staff surgeon, Fort St. George, Madras, has been granted six months' leave of absence home from India. Captain W. H. O'Riordan has been transferred from Ghangla Sali to the Military Hospital at Rawal Pindi Cantonment. Captain T. J. Mitchell has taken up duty at the Military Hospital, Lahore, on transfer from Dalhousie Cantonment. Captain T. T. H. Robinson has arrived home from India for duty at the expiration of his tour of service. Captain W. H. Forsyth has been appointed to the Southern Command for general duty. Captain A. E. S. Irvine has been transferred to the Home Establishment from the South African Command. Captain J. Fairbairn has embarked for a tour of service in the Sierra Leone Protectorate, West Africa.

INDIAN MEDICAL SERVICE.

The Honourable the Lieutenant-Governor of the United Provinces of Agra and Oudh has appointed Colonel C. C. Manifold, inspector-general of civil hospitals, to be a member of the Legislative Council of the United Provinces.

Lieutenant-Colonel D. T. Lane has taken up duty at Ambala Cantonment as Civil Surgeon, on return from leave of absence home from India. Lieutenant-Colonel R. C. Macwatt, second-class agency surgeon, on return from leave has been appointed to officiate as an Agency Surgeon of the First Class and as Civil Surgeon for Ajmer and Administrative Medical Officer in Rajputana State. Lieutenant-Colonel W. J. Buchanan, inspector-general of prisons in Bengal, has been appointed Companion of the Order of the Indian Empire.

Major V. G. Drake-Brockman has been selected for appointment as Civil Surgeon at Dera Ismail Khan. Major J. M. MacLeod has been appointed by the Foreign Department of the Government of India to officiate as Chief Medical Officer in Baluchistan, in addition to his duties as Civil Surgeon at Quetta during the absence on privilege leave of Lieutenant-Colonel A. L. Duke (Bengal). Major P. P. Atal has taken up duty as Substantive Medical Officer to the 129th Duke of Connaught's Own Baluchis. Major W. D. A. Keys, civil surgeon at Karwar, has been granted furlough and combined leave of absence home from India for one year.

Captain W. Tarr, civil surgeon at Pachmarhi, has been placed under orders for duty in the Nimar District. Captain J. S. O'Neill has been transferred from plague-prevention duty in the United Provinces of Agra and Oudh to ordinary civil employment in the same provinces. Captain A. G. McKendrick has been selected for appointment as Secretary to the Director-General of the Indian Medical Service in the Sanitary Branch, temporarily, in succession to Major S. P. James, placed on special duty. Captain F. W. Sumner, on return to duty from leave of absence, has been appointed to Farrukhabad. Captain J. A. S. Phillips has been selected by H.E. the Commander-in-Chief in India for appointment as Substantive Medical Officer to the 121st Pioneers, stationed at Quetta Cantonment, in succession to Captain I. D. Jones. Captain L. Hirch has arrived home on leave of absence from India. Captain D. Heron has taken up duty as Officiating Agency Surgeon of the Second Class under the Foreign Department of the Government of India at Seistan Consulate and has been appointed *ex-officio* His Britannic Majesty's Vice-Consul for Seistan. Captain N. S. Simpson has been selected for appointment as Medical Officer in Charge of Plague Prevention in the United Provinces of Agra and Oudh. Captain N. G. C. McVean has been granted six months' extension of his leave of absence home from India by the Secretary of State. Captain J. Anderson has taken over Medical Charge at Hazara on appointment as Civil Surgeon. Captain J. Smalley has been permitted to return to India by the Secretary of State. Captain H. C. Keates has taken up duty at Campbellpore as Civil Surgeon. Captain A. W. Howlett, on completion of special duty, has been appointed to officiate as Civil Surgeon at Mussoorie, in succession to Major C. Milne.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Cadet John Alexander Pridham, from the London University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated Feb. 6th, 1913).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Eastern Mounted Brigade Field Ambulance, Royal Army Medical Corps: Major Edward J. Cross to be Lieutenant-Colonel (dated Dec 7th, 1912).

1st Lowland Field Ambulance, Royal Army Medical Corps: William Cooper Gunn to be Lieutenant (dated Jan. 31st, 1913).

1st Northumbrian Field Ambulance, Royal Army Medical Corps: Lieutenant Edward Baines Kitching, from the List of Officers attached to Units other than Medical Units, to be Lieutenant (dated March 5th, 1913).

Attached to Units other than Medical Units.—The undermentioned officers resign their commissions (dated March 5th, 1913):—Lieutenant-Colonel Robert B. Graham, who is granted permission to retain his rank and to wear the prescribed uniform, and Captain John A. Angus.

For attachment to Units other than Medical Units.—Thomas Albert Fisher to be Lieutenant (dated Jan. 20th, 1913).

DEATHS IN THE SERVICES.

On March 1st at his residence, 5, Cresswell-gardens, South Kensington, S.W., Surgeon-General Sir Colvin Colvin-Smith, K.C.B., honorary surgeon to the King, in his 84th year. He first served in the Burmese war, 1852–53, and was present at the operations before Rangoon in April, 1852, at the capture of the White House Stockade, at the attack and capture of Shor-da-goung Pagoda, and at the occupation of Prome (medal with clasp). During the Indian Mutiny he was with the Kamptee Moveable Column and the Saugor Field Division, taking part in the affairs at Khoonee Pass, Narampore, Neemkaira, Budgam, and minor affairs on the great Deccan road. He also took part in the operations in the Palamow districts and the march to Jubbulpore (medal with clasp). In 1882 he served as principal medical officer of the Indian contingent during the Egyptian War, and was present at the battle of Tel-el-Kebir and the occupation of Zagazig (mentioned in despatches, medal with clasp, bronze star, the third class of the Osmanieh, and was made a C.B.). He retired in 1884.

Deputy Inspector-General of Hospitals and Fleets Edward Higgon Evans, R.N., aged 83. He entered the Navy in 1853, became staff-surgeon in 1862, fleet-surgeon in 1876, deputy inspector-general in 1884, and retired in 1888. He served through the Crimean War with the naval brigade under Captain Peel, on the *Diamond*, and attended the wounded after the battle of Alma. He was lent to the *Vengeance* during the epidemic of cholera in 1854. He was present at the fall of Sevastopol, and in 1861 was surgeon to the mission to the Court of Monaco.

FIRST LONDON DIVISION, R.A.M.C.(T.F.).

Major-General W. Fry, C.V.O., C.B., in declaring open the headquarters of the Royal Army Medical Corps (Territorials) at Chelsea, on March 1st, said that, as commander of the First London Division, he hoped that that new establishment would not only be a centre for training and instruction, but also a desirable social meeting place for medical units. He had always found, he said, the medical units well up in numbers, and in many cases they were the only units in a corps which were up to full strength. One reason for this, he thought, was the closer bond of discipline that existed between the officers and men.

THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.

Lieutenant-Colonel Thomas Horrocks Openshaw, C.M.G., R.A.M.C. (T.F.), and Colonel Clement Godson (T.F.) have been appointed Knights of Grace of the Order of the Hospital of St. John of Jerusalem in England.

ARCHIV FÜR SCHIFFS- UND TROPEN-HYGIENE.

In the *Archiv für Schiffs- und Tropen-Hygiene* for January appears a paper by Dr. S von Prowazek on Tona, a disease of horses in Samoa, a granulation tumour which forms usually about the fetlocks. It is a hyperkeratosis, often a warty formation, commencing with increased proliferation in the stratum lucidum; numerous bacteria appear in sections, and spirochætæ also. It cannot yet be decided whether these swellings are due to local irritation or to constitutional infection. The best treatment is removal by knife or cautery at the earliest appearance of the disease, with subsequent application of white precipitate ointment. Dr. H. Werner, who has been promoted in the service of the Tropical Medicine School at Hamburg, reports a case in which an attack of blackwater fever was brought on by a glycerine enema, and intensified by another two days later. Dr. Braunert reports on a voyage he made through the Marshall Islands. Syphilis is widespread, affecting some 10 per cent. of the population; the women had only families of one or two children, which he ascribes to the frequency of gonorrhœa, and the late age (25) at which they marry, after years of irresponsible gaiety. The *infantile mortality is over 200. Dr. Schumacher reports* favourably on nastin in leprosy and Dr. Canaan reports on an epidemic of dengue at Jerusalem. The characteristic features were the early exhaustion, the dirty white-coated tongue, an [illegible] tive increase of mononuclears. [illegible] osely resembles pappataci fever [illegible] duration, 6 to 8 days against 3 to 5 days; the eruption occurred in nearly every case (head, arms, and hands, on the fourth day); in the other fever rarely oftener than in one case in three. The question of their identity or difference is left for the present unsettled.

Sir Arthur M. Branfoot, K.C.I.E., has handed over the presidency of the Medical Board of the India Office to Sir Richard Havelock Charles, G.C.V.O.

Correspondence.

"Audi alteram partem."

THE PANAMA CANAL AND MARITIME SANITATION.

To the Editor of THE LANCET.

SIR,—The letter of Dr. J. J. O'Connell, health officer of the Port of New York, directs attention to matters of great public importance.

Port sanitary authorities throughout the world are indebted to the United States Marine Hospital Service for the bulletin issued by them for a number of years and now issued by the United States Public Health Service. Valuable information is furnished by this document, whilst the weekly circular issued by the Local Government Board to authorities of British ports is a most valuable supplement. No one can question that any possible amplification of these systems which would tend to keep port medical officers of health all over the world more fully in touch with the sanitary conditions of the various ports, as well as with the condition of ships bound for their harbours, should be encouraged as far as it possibly can.

The opening of the Panama Canal will, from the point of view of sanitation, obviously have a great effect upon the ports of North and South America, but it will also, though to a less extent, have an effect upon British ports, analogous to that consequent upon the opening of the Suez Canal. The greater speed of vessels, the far more frequent intercourse, and the ease with which a voyage may be completed within the incubation period of, say, typhoid fever or small-pox, or within which plague infection may be kept alive by rats, are grounds for the closest attention to the sanitary condition of ports. Rigorous adhesion to the regulations laid down by the International Sanitary Convention of Paris (to which the United States is a party) should obviate the injury to sanitation and commerce which isolated action, prompted by want of knowledge or by fear, would occasion.

There is nothing in the sanitary condition of British ports to justify uneasiness, and the constant watchfulness in regard to incoming vessels ensures that imported disease will be effectually dealt with.

I am, Sir, yours faithfully,
E. W. HOPE,
Medical Officer of Health for the City and Port of Liverpool.
Liverpool, March 3rd, 1913.

To the Editor of THE LANCET.

SIR,—The letter you publish from Dr. J. J O'Connell under this heading is very interesting, and coming from so eminent an official as the health officer of the Port of New York may be regarded as a very important pronouncement of policy. The United States is so much ahead of any other nation in maritime sanitation that we may be quite certain that some very far-reaching scheme will be adopted for vessels passing through the Panama Canal. The exact lines of policy are not clearly indicated in the letter, and I am inclined to think that Dr. O'Connell is for the present rather feeling his way. It is, however, quite evident that this canal will be taken in hand in a very different manner to what has ever been the case with the Suez Canal. It is pleasing to note that whatever the details of the scheme are to be there is to be no undue interference with the natural flow of commerce, and that it is thought the 12 hours during which vessels are on the move can be utilised for inspection, and disinfection and fumigation where necessary.

I have some considerable experience of the conditions of a locked waterway, and whilst acknowledging that inspection can be very satisfactorily carried out on a moving vessel, I am somewhat sceptical as regards satisfactory disinfection and fumigation under a like condition. The Manchester Ship Canal is sufficiently wide to allow large vessels to pass one another with comfort and safety, but as these cannot get steerage way at the speed they travel two or three tugs have to be utilised for progression and balance. If similar conditions obtain in locking and navigating the narrow parts of the Panama Canal the fumigation boat will probably be regarded as a hindrance to navigation; at any rate, it would perform its function under extreme difficulties. Further, although there would probably be no tugs required on the lake, where the vessels will go at a much higher speed, one can again imagine how difficult it would be for a tender to keep in such correct relationship as to be able to pump, say, Clayton gas into her various holds. Steam disinfection of bedding, clothes, &c., could be carried out very well on such a tender, the articles being handed in at one end of the canal, and returned free from infection at the other.

Dr. O'Connell does not anticipate trouble from cholera, and, so far as this country is concerned, we do not anticipate trouble from yellow fever. We are mainly concerned with plague and (in my opinion) with small-pox. There would be no administrative difficulty in dealing with small-pox infection, as the methods adopted simply have concern with individuals and living quarters, but it would be very interesting to know the extent to which measures will be taken against plague infection. Will it be the policy to destroy all rats in "suspected" and "infected" ships by utilising some of the modern mechanical methods of forcing poisonous gases into the holds when full of cargo, and will the owners of merchandise be indemnified against possible damage? Whether vessels will be dealt with on the move or not there is, however, no doubt that infection can be thoroughly dealt with, if necessary, at either end of the canal before entry, and, to my view, without causing any great amount of delay. It will certainly be interesting to have more particulars, and I hope your correspondent will supply these in due course.

It is very gratifying to note that Dr. O'Connell regards the question from an international point of view, and there is no doubt that if his suggestion of transmitting information regarding infectivity of vessels to the ports to which they are bound be adopted, a most valuable asset will be placed in the hands of the port medical officers of this country. I am, Sir, yours faithfully,

W. F. DEARDEN,
Medical Officer of Health, Port of Manchester.
Manchester, March 3rd, 1913.

To the Editor of THE LANCET.

SIR,—Dr. J. J. O'Connell's letter in your issue of March 1st is not only of great interest but of vital importance, drawing attention, as it does, to a question that must affect the public health welfare of the whole world.

With the completion of the Panama Canal new routes will be opened up and with them trade relations will be changed between this and other foreign countries. Realising how frequent and extensive is the inter-communication between this country and others affected by dangerous endemic diseases the surprise must be that our country escapes as it does.

The disease above all others which we have cause to fear is plague, and more than one of our cities has been alarmed by a visitation of the dread malady within the past ten years. Fortunately, our domestic sanitation is improving every day, and the mischief-spreading rat is afforded a small opportunity to come into close relationship with human beings. But the appeal which Dr. O'Connell makes for concerted action should not be allowed to rest. There is no cause for alarm, but the policy of leaving well alone can be overdone. The best guarantee for preventing disease is the preparedness of the medical officer of health for eventualities. That is tantamount to saying, "Be prepared for war to maintain peace."

Our Public Health Acts are, generally speaking, far in advance of those of other countries, and one of the powers of these Acts vested in the Local Government Boards is the creation of port sanitary authorities. This power has not been exercised to the extent that one would desire. It was only after plague visited Glasgow that steps were taken to formulate a port sanitary authority for the Clyde. So far as I know there are no other properly constituted port sanitary authorities in Scotland. Yet in the course of the next decade Leith will be converted into a very influential seaport town. At present it is the second largest seaport in Scotland. When plague visited Leith some years ago everything became bustle and confusion. The sanitary authority grudged no expense to rid the port of the incubus of restriction on trade. As soon as the excitement died down and the Local Government Board declared Leith to be free from infection, the administrative charge lapsed into its usual rut.

The sanitary authority, although strongly advised by me to profit by the scare, contented itself by mentally reciting "sufficient unto the day is the evil thereof." This is not as it should be. Sanitary authorities are most susceptible to influence from headquarters, and an official hint that their houses should be put in order would soon achieve the desired result from seaboard sanitary authorities. There is room and need in every one of our large seaports for systematic official inspection and visitation of all ships coming from abroad.

At Leith our oversea grain trade is swelling year by year, and the foreign ports touched include those of all parts of the world. I welcome Dr. O'Connell's letter, and in a cursory way have offered an indication that more can yet be done in this country to strengthen our defences against the assaults of disease. I am, Sir, yours faithfully,

WM. ROBERTSON,
Leith, March 3rd, 1913. Medical Officer of Health.

To the Editor of THE LANCET.

SIR,—The letter of Dr. J. J. O'Connell on the above subject in your issue of March 1st is one of importance and interest. It is a recognised fact that any port which wishes to enjoy a successful maritime trade must keep itself free from cholera, plague, and yellow fever, and it is almost of equal importance to the successful maritime commerce of that port that the ports with which it is in communication are also free.

The Panama Canal, which is happily controlled by the United States, will have the advantage of being supervised by the same sanitary vigilance as the United States exercises in all its great ports. Such extra precautions as may be found to be necessary will be indicated as a consequence of the direct communication opened up between the Pacific and the American ports in the Atlantic. Few, if any, countries have done more, or enjoyed greater success, in the field of sanitation than the United States, and the measures which will be found necessary for its own protection will be the greatest guarantee that the European ports could hope for in the prevention of infection entering the Atlantic *viâ* the Panama Canal.

The visitations of cholera and plague into European countries have not been, as would naturally be expected, increased by more maritime commerce, as indicated by large passenger vessels making long and rapid voyages. The ports infected have been invariably those in the Mediterranean, the infection being due mainly to coasting vessels, the outbreak being as a rule limited in extent. To-day, as in former times, the importation of plague and cholera into Europe would appear to be transmitted along the lines of commerce, such as rivers, railways, caravan routes, or by small coasting steamers. It is by these channels that the outbreaks of importance which have from time to time occurred in Europe have originated.

In recent years the epidemics of cholera in Russia appear to have spread from their endemic centres round the Caspian Sea along the trade routes of the large rivers of Central Russia. The last epidemic in Italy originated by means of small coasting steamers travelling from Asia Minor. Several of the small outbreaks of plague in England have been due to infected rats from tramp steamers arriving from the Black Sea. The chief sources of danger of infection to British ports still appear to be the ports in the Black Sea, the Near Eastern, and the Mediterranean ports.

Last year's International Sanitary Conference at Paris, which had for its object the limitation of cholera, plague, and yellow fever, had a far larger representation from the different States in South America than the Conference of 1903, when Brazil alone sent a delegate. Last year Brazil, Argentina, Bolivia, Chile, Colombia, Ecuador, Paraguay, Panama, and Uruguay were represented. The great object of such Conference is that of mutual protection, and while each port exercises precaution for its own protection against possible invasion by incoming vessels, it has to recognise international obligations by adopting every possible means to ensure that vessels which leave do so under conditions which justify a clean bill of health. By the terms laid down by the Conference each country is expected to supply for the information of other countries notifications of the occurrence of any cases of cholera, plague, or yellow fever, and it remains with the latter to make a declaration for the benefit of their own ports as to whether such notified districts should be regarded as infected.

There is little doubt that the different Governments using the seas connected by the Panama Canal will organise special arrangements for their mutual protection It is difficult to realise that the opening of the Canal will expose Europe to *any increased danger from such diseases as* cholera, plague, and yellow fever Special measures will *need to be taken by the ports in the Atlantic and the* Pacific which are now brought into such close relations by the Canal, and there is no doubt that the combined interests will be quite equal to cope with the altered conditions

I am, Sir, yours faithfully,

R E LAUDER, M D. Durh , F.R C S Edin ,
Medical Officer of Health to the Port of Southampton
Southampton, March 4th, 1913.

To the Editor of THE LANCET.

SIR,—Dr. J J O'Connell's letter in the last issue of THE LANCET advocating the establishment of an elaborate and compulsory system of sanitary inspection and supervision, including quarantine if necessary, of all vessels passing through the Panama Canal, is worthy of serious attention, for if no further serious landslides occur at Cucuracha or upheavals take place in the bottom of the Culebra cutting, the Canal will probably be open for the passage of large vessels early in 1914 Many of the suggestions made by Dr O Connell are admirable, especially the establishment of boarding stations, floating appliances for efficient disinfection, the establishment of isolation hospitals, &c — to these we may add with advantage an abundant and pure supply of drinking water, but a compulsory system [illegible]

Dr O Connell is unduly pessimistic in reference to the dangers of serious epidemics of plague, yellow fever, and cholera, owing to the fact that South American and other danger ports will be brought nearer to some of the American ports *viâ* the Canal The opening of the Suez Canal and the ever increasing speed of passenger and merchant vessels have combined to bring Europe much nearer to the East where these diseases are endemic than obtained formerly, yet the establishment of a stringent system of inspection and quarantine at Suez has never been seriously contemplated in Europe A more thorough knowledge of the natural history of yellow fever, plague, and cholera, and improved sanitation in our ports have combined to reduce the dangers of invasion of these diseases by sea in particular, and England has consistently fought for a reduction of the restrictions to shipping entailed by quarantine regulations and the substitution of the latter by a system of intelligent inspection, removal of infectious individuals to hospitals disinfection and supervision of contacts after arrival in port

Quarantine regulations, if entirely administered by a competent staff of medical men, would probably cause little apprehension to other maritime nations interested in the matter, but as a matter of fact minor lay officials would have to be trusted to a large extent in actual practice, and those who have had much experience in maritime affairs know the weaknesses of the ordinary officials entrusted with such duties in many foreign countries

Dr O Connell states that "political conditions place the *sovereignty over the Canal zone in the hands of the American* Republic Back of all smaller questions now in controversy is the broad and high understanding of all the world, that this sovereignty is not to be exercised for a selfish or a national benefit but for civilisation at large " The action of the American Government in giving preferential treatment to American vessels passing throug i the Canal has unfortunately destroyed the confidence of other nations in the disinterestedness of the former in this matter The establishment of an elaborate system of quarantine regulations, &c , if seriously contemplated is a subject for international discussion in view of the many interests involved, and of the fact that the preventive measures adopted in this country differ so materially from the so called quarantine regulations of most foreign countries

I am, Sir, yours faithfully,

J HOWARD JONES, M.D , D Sc Edin ,
Port Medical Officer of Health, Newport, Mon
Newport March 3rd, 1913

APPENDICITIS: A PLEA FOR IMMEDIATE OPERATION.

To the Editor of THE LANCET

SIR,—At the debate at the Medical Society of London on Feb 10th *we all regretted the absence of Sir George Beatson,* whom we had expected to hear If he had been present he would not have had any doubt as to what I meant by "immediate" operation Had I said "early" operation (as he *suggests), there would have been an opening for uncertainty,* as all people do not put the same meaning to the word Some think that their arrival with luggage at a railway *station is early if it is three minutes before the express is* timed to start, whilst others, to be *early*, like to arrive about an hour beforehand

I used the word ' immediate" because I thought it had a clear and unmistakeable meaning This is what Samuel Johnson says "IMMEDIATE 1 Being in such a state with respect to something else as that there is nothing between *them " (I am sorry that I have not a Scotch dictionary at* hand)

The question for discussion was not as to the *expediency* of doing an operation in any particular or advanced stage of the disease, but one of *principle* These are the words which I used, and by them I stand

> A case of appendicitis should be operated on as soon as ever the diagnosis is *made—within the first 12 hours, if possible—that the patient will then not only* get well, *almost for certain*, but *will get* well very quickly

As your report showed, surgeons came to take part in the debate from widely distant parts of England (and one illustrious surgeon from north of the Tweed), but they all agreed that the only way to make *safe* against surprises, dangers, and fatal results was by operating as soon as the presence of appendicitis is recognised—that is, ' with nothing coming between' the recognition of the disease and the removal of the appendix. [illegible] with every inflamed appendix [illegible] some appear to believe that [illegible] gentler means In my opinion they over estimate their power Time and again a captain may bring his ship securely at high speed through fields of Atlantic ice, but the taking of such a risk is not justified by its success

I am, Sir, yours faithfully,

EDMUND OWEN

Great Cumberland place W , March 3rd, 1913

GASTRO-ENTEROSTOMY IN PERFORATING ULCER

To the Editor of THE LANCET

SIR,—In the paper by Mr Edred Corner on Perforation of Gastric or Duodenal (Pyloric) Ulcers, which appears in THE LANCET of March 1st, pp 600-604, quotations are made from a paper of mine in the Transactions of the Royal Medical and Chirurgical Society (Vol XC , 1907, pp 254–257) which fail to do justice to my views For example, Mr Corner writes "Yet Sir Berkeley Moynihan is not a man to 'say it very deliberately' (his own words) and advise the performance of gastro enterostomy without good reason " The words quoted from me appear in a part of the paper which has nothing to do with gastro enterostomy, but with the absence of shock in the early hours after the perforation of an ulcer. The full sentence is "In the recent cases which I have seen—and I say it very deliberately—there has been no suspicion of shock "

The advocacy by me of the performance of gastro enterostomy in cases of perforated duodenal ulcer dates from 1901, and is contained in a paper published in *THE LANCET of* Dec 14th, 1901, pp 1656–1663 The full paragraph in my paper in the Transactions of the Royal Medical and Chirurgical Society quoted by Mr Corner is as follows

> [illegible] cicatricial contraction of the ulcer, or suspicion of the presence of a second [illegible]

be nearer to the pylorus than the one which has been closed. In those two circumstances only, I think, is gastro-enterostomy justified or compulsory.

In the detailed analysis of my cases which was distributed to the members of the society present at the meeting (loc. cit., p. 395), I say: "If the ulcer be near the pylorus (on either side) and if its closure is at all likely to cause an obstruction; or if a second ulcer be seen in the vicinity of the pylorus, then gastro-enterostomy should be performed; in other cases it is not necessary." A general statement such as Mr. Corner makes to the effect that I advocate the performance of gastro-enterostomy "at the same operation as that at which the ulcer was sutured," is very seriously to misrepresent my meaning. For the differentiation of the two groups of cases, those in which gastro-enterostomy should be done, and those in which it is not necessary, and therefore should on no account be done, is, in my view, of very great importance, and is, I submit, stated in terms of such precision as should make misquotation or misunderstanding impossible. I am, Sir, yours faithfully,

Leeds, March 2nd, 1913. BERKELEY MOYNIHAN.

THE AFTER-EFFECTS OF GASTRO-ENTEROSTOMY.

To the Editor of THE LANCET.

SIR,—The report of the discussion on the After-effects of Gastro-enterostomy at the Surgical Section of the Royal Society of Medicine in your issue of Feb. 22nd, and the paper by Mr. A. W. Bourne in the *British Medical Journal* of March 1st, give one cause for serious inquiry into this subject. These communications tend to shake the confidence of the average surgeon and the profession generally in the efficacy of the operation of gastro-enterostomy, and I do not think that they should be allowed to pass without comment.

During the past fortnight I have communicated with all patients on whom gastro-enterostomy was performed during the year 1909 and during the past 12 months, with the exception of malignant cases, and, of course, of those who died immediately after operation. Previous to 1909 I consider that my operative procedure in these cases was imperfect, hence I think it would serve no good purpose to go back further than that year; but the cases done in 1909 may reasonably enough be looked upon as providing "late" results, while those of the last 12 months provide "immediate" effects. Mr. Bourne's statistics must, of course, be judged from the same standpoint, but at the same time it does not appear from his paper that the technique pursued at St. Mary's Hospital has been altered since 1910. I communicated with 61 patients, and received replies from 53. Six of the remaining 8 had, in the language of the Post Office, "gone and left no address." Of the 53, 49 declared themselves to be absolutely free from symptoms which had existed previous to operation, and, further, had none of the symptoms detailed by Dr. A. F. Hertz, who introduced the discussion at the Royal Society of Medicine. Of the 4 cases who had complaints, 1 was done in 1909. This patient states that, while she is relieved of her stomach symptoms, she has a discharge from the bowel and an occasional swelling in the left iliac region. She is known to be an alcoholic. So far as I can make out her symptoms are due to meso-sigmoid adhesions and accompanying colitis. Of the 2 1912 cases, one complains of occasional "bilious attacks," but is otherwise well; and the other one, who had possibly carcinomatous ulcer which could not be excised, states abruptly that he is not improved and suffers from "pain in the stomach, swelling, cough." This gives a percentage of 5·7 cases (roughly) which are not entirely relieved. Such after-results can surely be due only to the technique of the operative procedure adopted.

In a paper published in THE LANCET of Dec. 3rd, 1910, p. 1610, I drew attention to the principles on which I considered a proper operative procedure should be based, and the only modification of that procedure which I now adopt is the excision of every ulcer when practicable. To recapitulate shortly, I consider that the following are the most important points to attend to: (1) the position and (2) direction of the opening in the stomach (as near the pylorus as possible without causing angulation of the small intestine proximal or distal to the stoma), (3) the size of the opening (I make the opening in the stomach from the lesser to the greater curvature), and (4) the treatment of any extra-gastric abnormality which might possibly have a deleterious reflex action on gastric function. It will be seen that rapid drainage of the stomach is less aimed at than an attempt to make the post-operative conditions conform to normal function. As indicated in my paper referred to, even in so-called atonic stomachs the tone can be restored by appropriate after-treatment, while I find, further, that cases of normal acidity do as well as those with hyperacidity, and cases where no evidence of present or previous ulcer is found do as well as cases where such conditions are present. I believe still what I have previously said[1] that the motor and secretory functions of the cardiac and pyloric parts of the stomach are distinct in action, there being a saccular cardiac portion and a tubular pyloric portion during digestion, which are most distinctly marked the more normal the stomach. The commencement of the pyloric tubular portion is indicated by what I have termed, for the sake of brevity, the "middle sphincter." One should appreciate, in the performance of gastro-enterostomy, the effects of tonicity of the pyloric tube and place the stoma somewhere in it.

Dr. Hertz gives details of "certain unfavourable after-effects" in "many patients" subjected to gastro-enterostomy and afterwards investigated by him. Dr. Hertz (in THE LANCET of Dec. 10th, 1910, p. 1724) criticised very adversely my interpretation of the motor and secretory functions of the stomach on which I base my operative procedures. The results I now publish appear to confirm strongly my interpretation, and should, I think, lead Dr. Hertz to modify the adverse views he then put forward.

I am, Sir, yours faithfully,

Aberdeen, March 3rd, 1913. H. M. W. GRAY.

PHYSICAL CHARACTERISTICS OF MIGRANTS TO THE UNITED STATES.

To the Editor of THE LANCET.

SIR,—In your interesting leading article on this subject in your issue of March 1st, p. 626, it will be noted that there is one characteristic common to the descendants of immigrants of various races—viz., the narrowing of the face. It would be interesting to know whether this narrowing is accompanied by a lengthening of the face; if so, it probably corresponds to a modification of the facial contour which is affecting our population to an enormous extent and which is seemingly associated with adenoid vegetations, nasal stenosis, and mouth-breathing.

The generally accepted hypothesis is that the constantly open mouth puts the muscles on slight tension and thus causes compression of the developing maxillæ, producing the narrow arch. The counter-pressure of the tongue is also lost, as in mouth-breathers the tongue is on the floor of the mouth and does not fill the oral cavity as is the case with normal breathers. This narrowing of the face is accompanied by increased obtuseness of the angle of the mandible, and lengthening of the face.

An annotation which appeared in your columns of Feb. 15th, p. 476, on "Contraction of the Dental Arch and Nasal Stenosis" says that Dr. Matthew Cryer considers that the muscles causing contraction are probably the palato-glossus and the palato-pharyngeus. In this, I think, most people will agree with him. But Dr. Cryer also advances a new hypothesis. He says that the effect of the narrow arch is to compress the tongue and force it back into the oro-pharynx. The tongue "pushes up the soft palate against the post-pharyngeal walls and cuts off respiration through the nose." This seems to me to cut off respiration through the mouth as well; let anyone try the manœuvre for himself. Professor A. Keith considers the alteration of facial contour is only partly caused by mechanical means, and thinks that one or more of the ductless glands are concerned. His article on "Progeria" recently appearing in your columns[2] would seem to confirm this.—I am, Sir, yours faithfully,

Harley-street, W., March 3rd, 1913. WM. RUSHTON.

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[1] THE LANCET, Feb. 22nd (p. 549) and July 25th (p. 224), 1908.

[2] THE LANCET, Feb. 1st, 1913, p. 305.

THE ABDOMINO-PERINEAL OPERATION FOR RECTAL CANCER

To the Editor of THE LANCET

SIR,—In answer to your correspondent Dr R Leonard Ley, writing in THE LANCET of Feb 22nd under the above heading, I should like to point out that he has fallen into one or two errors owing to the fact that he is not acquainted with the more recent developments of this operation In the first place, he considerably over estimates the mortality of the operation in the hands of those who have had some experience in its performance He puts the mortality at 40 per cent This is certainly much too high at the present time, even in non selected cases My own mortality for this operation during the last three years comes out well under 20 per cent , and I have never attempted to select my cases in the sense of choosing those most suitable from a statistical point of view , they have only been selected from the point of view of giving the patient a reasonable chance of cure , and quite half the cases have been men, and a number of them over 60 years of age 45 per cent of my own patients in the last three years have been over 60 years of age and 60 per cent over 55 years of age In an operation of this magnitude, performed as it must necessarily be upon elderly patients usually in a poor state of health, there will always be a serious risk, but with improved technique and experience the mortality has been very much lowered, and my own record would show a still lower mortality had I not had the misfortune to lose two cases from embolism within the last year

Dr Ley states that the chief cause of death from this operation is sepsis I quite agree with him that this was so in the early cases, but it is not now I have only lost one case from sepsis in the last three years, and with careful *technique this danger should be avoided The success of* this operation, as in so many surgical procedures, depends upon the technique, not only of the operation, but also of the preliminary preparation of the patient and the after-treatment of the case, and it is here quite as much as in the actual performance of the operation itself that care and experience tell

I see no advantage in the performance of a preliminary colotomy, and one very serious disadvantage—namely, that there will be grave risk of infection from the colotomy opening at the second operation for the removal of the growth I agree with Dr Ley that the operation should certainly never be performed when the bowel is full of "evil smelling fæces" It is essential that the bowel should be thoroughly cleared out before the operation, but this can be satisfactorily done without having recourse to a preliminary colotomy Of course if the stricture is so tight that there is practically obstruction a colotomy must be performed, but this is seldom the case when it is feasible to remove the growth at all In many cases, especially in women, there is no necessity for a colotomy, it being possible to bring the bowel down, even after extensive resection and thorough clearing out of the glands I do not think that a preliminary colotomy saves much time in the performance of the operation The entire operation in a favourable case—that is to say, in a thin woman, where there is a fairly small growth—can be performed in less than an hour, and this is not an unduly long period I believe the mortality from this operation will be still further reduced as the result of experience and improved technique

I am, Sir, yours faithfully,
P LOCKHART MUMMERY, F R C S Eng

Cavendish place, W March 4th 1913

SUPRARENAL EXTRACT IN GRAVES'S DISEASE

To the Editor of THE LANCET

SIR —Mr James Berry in his lecture on "The Surgery of the Thyroid Gland" asks for evidence in favour of the use of suprarenal extract in Graves's disease as recommended by the late Dr George Gibson May I contribute a fragment? Mrs A has been under treatment at intervals since March, 1910 for Graves's disease with the usual symptoms of moderate severity Improvement was always obtained by a mixture of iron, belladonna and strophanthus In October and November, 1912, however, these remedies entirely failed, and the patient seemed in a serious condition from anæmia and heart weakness I happened to have a bottle of Allen and Hanburys' elixir of suprarenal gland and gave her this with advice to rest I called at her house last week and on inquiry she said . "That was wonderful medicine you gave me I cannot live without it" The evidence which further questions elicited seems as conclusive of cause and effect as such testimony can be —I am, Sir, yours faithfully,

C E H WARREN

Dagnall Park Selhurst S E March 3rd 1913

A POINT IN EXAMINING URINE

To the Editor of THE LANCET

SIR,—When testing urine for sugar we usually add a few drops of urine to the freshly boiled Fehling's solution, and then boil them together But I find that if the urine be poured from a pipette on to the surface of the just boiled Fehling's solution, and the tube be set up for a minute in the test tube rack, we may get a sugar reaction to manifest itself from glucose solutions too dilute to precipitate copper oxide when the test is done in the usual way The oxide forms at the interface and in the urine, where there is little caustic alkali or tartrate to dissolve it This is of interest in examinations for life insurance, and I do not see it chronicled in the usual text-books

I am, Sir, yours faithfully,
W E HOME,
Pathologist to the Hospital.

Royal Victoria Jubilee Hospital Victoria Vancouver Island
Feb 3rd 1913

⁎ This quite useful observation has been made before by the late Dr W Howship Dickinson —ED L

A DISCLAIMER

To the Editor of THE LANCET

SIR,—We regret that our names have appeared in an article on the treatment of consumption which was published in the *Daily Telegraph* on the 1st inst , and wish to state that the article in question was written and published without our knowledge and consent

We are, Sir, yours faithfully,
J CAMPBELL MCCLURE
F MEHNARTO
J HORNE WILSON
KENNETH E ECKENSTEIN.
R TANNER HEWLETT

Welbeck street, Cavendish square W March 4th, 1913

THE RELATIONS OF OPERATOR AND ANÆSTHETIST

To the Editor of THE LANCET

SIR,—In a recent leading article[1] in THE LANCET it was pointed out that if any issue ever came to be tried in the law courts involving any question as to the mutual relations of surgeon, anæsthetist, and patient the result must depend upon the ordinary common law applied to the merits and circumstances of the individual case Hitherto, as far as I am aware, the contingencies that might have led to litigation have not done so and if the administration of anæsthetics in dental operations be taken into account it will be appreciated that an enormous number of occasions on which differences of opinion could arise between anæsthetist and operator are characterised by harmonious coöperation in the patient's interest

The most easily to be imagined case in which the relations of an operator, surgical or dental, and an anæsthetist might come to be discussed in a court of law would be an action for negligence brought by a patient Actions for alleged negligence by patients against surgeons or dentists are, of course, not uncommon and a surgeon or dentist if he found himself blamed by a patient might allege that failure on his own part to achieve a successful result was due to something done or omitted by the anæsthetist in connexion with the operation, for which the last-named should rightly be made liable. In any case where the operator ascribed failure on his part to the act of the anæsthetist, but was prepared at the same time to justify that act in the circumstances of the case, and where the anæsthetist accepted the position indicated, a plaintiff would probably have too little chance of success to persevere in his claim. On the other hand, in a case in which the operator was prepared to be a witness on the side of the plaintiff, and in which the issue to be tried was whether the anæsthetist performed his task with a fair, reasonable, and competent degree of skill, the anæsthetist, while admitting that he acted wrongly from the point of view of a prudent or skilful anæsthetist, might allege that he did so under compulsion exercised by the operator. The anæsthetist will, of course, be liable for any default of his own committing, and it would not be easy for him in such a case as is here imagined to shift the responsibility.

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[1] THE LANCET Dec 7th 1912 p 1599

The anæsthetist could hardly be held on any such occasion to be subject to the orders of the operator, so as to deprive him of his position of responsibility to the patient. His relation to the patient is similar to that of the operator, who very generally introduces him, but who, provided that he exercises reasonable care in doing so, cannot be deemed to incur any legal liability for the conduct by his colleague of his particular share in the operation.

We may turn from actions for negligence brought by patients to consider whether any other occasion might produce litigation involving the relations between an operator and anæsthetist. We may imagine special arrangements to have been made between an operator (a surgeon or a dentist) and an anæsthetist to work together. Under such a contract the mutual relations of the two parties might be defined and might differ from those which I have suggested above, so that either of them might be found suing the other for an alleged breach of an agreement to perform certain duties in a certain way.

I am, Sir, yours faithfully,

Feb. 24th, 1912. Jurisprudentia.

⁎⁎⁎ We do not think that such an arrangement is either likely to be met with or desirable. The cordial understanding between operator and anæsthetist necessary for the efficient performance of their respective shares in acts of grave importance to a third person will it is to be hoped long continue to prevent any possible differences of opinion between individual members of two branches of the same profession from being ventilated in courts of law.—Ed. L.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of The Lancet.

Sir,—Your correspondent Dr. D. J. Munro brings forward the pledge. I confess that I wished and thought the pledge was dead. I remain under the impression that it died a natural death when the report of the Advisory Committee appeared, and that the Representatives occupied Jan. 17th and 18th in writing out the death certificate. When he says he is bound by the pledge he is in error, for he is in reality bound by the conviction that the terms and conditions of service are not satisfactory. With wider knowledge and after much thought I have arrived at the opposite conclusion. There are two parties diametrically opposed to each other. The terms of the pledge, therefore, are impossible of accomplishment—"satisfactory to the whole profession." A compromise has been arrived at to give the Act a fair trial for three years. The resolution of the British Medical Association prepares the way. Those who think well of the Act are at liberty to accept it without any feeling that they are disloyal. Those who are of the other opinion are equally at liberty to refrain, or to experiment and save themselves from being ousted out of a portion of their income. Dr. Munro shivers with horror at the "panel system." His name has been on a panel of qualified practitioners for a dozen years. It is asserted that the majority of the metropolitan practitioners are opposed to the Act. I knew that five years ago. They are not "die-hards," but "do-nothings," "pigheads," ready to "brand" with a "stigma" anyone who does not happen to agree with them at the moment. My letter was not based on any assumption that the Act was right or wrong; it is a question of ethics.

With regard to the handbills, three men are directly responsible; all are members of the Association and, I think, Licentiates of the College of Physicians. Among the 77 or 80 doctors on the Kensington panel at the time (I limit myself to Kensington) were undoubtedly some members of the Association. As yet there is no sign of the Central Ethical Committee taking the matter in hand. Until my questions are answered no doctor on the panel can regard himself as under any obligation to the Association.

Will the College of Physicians endorse the conduct of its Licentiates?—I am, Sir, yours faithfully,

George Crichton, M.D. Edin.

Longridge-road, South Kensington, Feb. 25th, 1913.

THE NATIONAL MEDICAL UNION.

To the Editor of The Lancet.

Sir,—It has come to the knowledge of the executive committee of the National Medical Union that misleading statements as to the methods and objects of this association have appeared in many newspapers during the last few weeks throughout the country. These statements must have been founded on a mistake, the authors having confused the aim of two separate societies, the names of which are somewhat similar.

The National Medical Union has been in existence for nearly 15 months, and is well known. The National Medical Guild is a new body which has been lately originated in London, and which is now making application for recognition as a trades union. The National Medical Union as constituted at present is a society composed exclusively of medical men who do not intend to take service of any kind under the National Insurance Act as it now stands after April 14th, 1913. The Union exists primarily for the interests of these men. It has no intention of working on trades union lines. It aims at uniting "non-panel" men all over the country, at furthering their interests, and at defending their rights; it seeks to preserve the honour, independence, and efficiency of the profession; and it hopes to form a "rallying ground" for doctors who, having accepted service on panels and found out the impossibility of doing sound work thereon, are desirous of retiring therefrom.

The Union will work for the provision of adequate medical attendance for the industrial classes at reasonable remuneration on the lines of general practice, and it will seek for such amendment of the National Insurance Act as will secure this and safeguard the interests of both patients and doctor. The National Medical Union, whilst sympathising with the general attitude of the National Medical Guild, is not at the present time in favour of the promotion of their common aims by trades union methods.

We are, Sir, yours faithfully

G. A. Wright, President.
William Coates, Chairman.
J. Webster Watts, Secretary.
E. W. Floyd } Honorary
J. Skardon Prowse } Secretaries.

Donations and Bequests.—The late Lord Ilkeston has left £800 on trust for the foundation of a scholarship at the University of Durham in memory of his late daughter, Winifred Foster, who was a student there, the income to be applied to a "Winifred Foster Scholarship," to be awarded to a woman student who requires help to maintain herself at the University, and shall be a student and reside at such University, and who shall have taken a sufficiently high place in the matriculation examination and be under the age of 22 years.—Subject to a life interest, the late Mr. D. M. Forbes, medical officer of health for the Eastwood urban district council, Notts, has left by will £1000 to the Nottingham General Hospital and £500 to the Eastwood Nursing Association.—Sir Gilbert Wills, M.P., and his family have offered £5000 in memory of the late Sir Frederick Wills to the Royal Victoria and West Hants Hospital, Bournemouth, towards the building of an administration block at the Boscombe branch of the hospital.—An anonymous donor has promised a gift of £10,000 to the Middlesex Hospital.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

I.—THE STRUGGLE AT SOUTHAMPTON.

Professional Harmony.

THE time is now at hand when we may leave the realms of theoretical controversy and approach more certain ground. We are no longer facing solely a question of the good or ill that may result from the National Insurance Act. To-day the new law is in active operation, and therefore it is already possible to note and record some of the consequences that are becoming manifest. To do this throughout the country in an exhaustive manner would obviously be impossible; the conditions of medical practice vary considerably from locality to locality, and the hardship of one place may weigh lightly in another, while the grave abuse in a northern county may not have its counterpart in the south. To study the working of the Act and gauge what effect it is producing in real practice I selected Southampton for my first investigation, because both the medical profession, on one side, and the population affected by the Act, on the other side, are exceptionally well organised. More than once there has been occasion to describe the admirable sense of union which has brought the vast majority of practitioners at Southampton together so as to deal with the evils that result from contract practice. On the other hand, the great friendly or benefit societies and the trades unions are very numerous and powerful at Southampton. How the medical practitioners of this port formed a provident medical association has been related in these pages, and early in the discussion on the Insurance Bill it was suggested that this organisation might be used as the medium for the administration of the medical benefits under this scheme, should the Bill become law.[1] Later in the day, however, it was evident that greater unanimity in the profession would have to be secured. The Provident Medical Association, for instance, was frankly opposed to the four medical men whom the Federation of Friendly Societies had imported and to whom they paid regular salaries for their full time. But when it became a question of fighting the Government it was felt that all such minor quarrels and differences must be set aside so as to secure absolutely united action. A provisional local medical committee was formed with its doors open wide to all. Instead of ostracising them, special overtures were made to the club officers, and when they consented to fall into line with all the other members of the profession their presence was particularly welcomed. This generous and broad policy was fully justified by the events, for these practitioners, who had known what it felt to be called "blacklegs," proved better fighters in action and more staunch to the medical union than several of its oldest members. The proposal was that if the Bill were modified in the sense desired by the medical men, and in accordance with the generally expressed medical policy, then the provisional committee thus formed would become the permanent Local Medical Committee under the Act. Nor has the last word been said; for, in spite of the disappointments that have ensued, this policy may yet be brought about. Having united the entire local profession, including the club doctors with whom they were formerly in conflict, the provisional local medical committee determined to stand out and refuse to go on the panel. To make quite sure of fidelity to the cause, one of the medical men who was employed by the Federation of the Benefit or Friendly Societies was elected on a committee consisting of 15 members appointed to carry on negotiations. Yet his interest in going on the panel was greater than that of most of the Southampton practitioners. He ran the risk of enormous loss by standing out. Nevertheless, he was quite ready to incur this risk. Such harmony in the medical profession had never been known before in Southampton. It was then said that whatever else the Act might do, its discussion had engendered a spirit of union among practitioners stronger, more unanimous, and more widely spread, than anything shown in previous struggles. Every practitioner in the borough had been tested; they had all gone through an ordeal which had proved who could be trusted, and everything gave good promise of victory in the approaching fight. The old Southampton Provident Medical Association formed by the Medical Union was converted into the Public Medical Service to which all the practitioners were attached, and through which it was proposed to treat insured persons and to include the uninsured relatives and dependents that were not included in the scope of the Act.

The Betrayal.

A great [illegible], was in store. I am informed [illegible] single influential man caused all [illegible] to collapse. On the Sunday preceding Jan. 1st, first one, then another, then two or three medical practitioners together, went about asking their colleagues whether they would go on the panel if a panel was formed. In the circumstance, such a question indicated hesitation, and as the instigator of surrender was a member of the committee of 15 a panic was caused. Three or four practitioners were so alarmed that they at once enrolled themselves on the panel, and the united front which the profession had so bravely shown up to this date was broken. Doubtful as to what might follow, the fight on the lines at first intended had to be abandoned, and the action of the medical profession was entirely reversed. Instead of refusing to join the panel, it was decided practically to swamp the panel, and to-day no less than 45 practitioners have inscribed their names. Of course, the reversal of policy was a great disappointment to those who had pinned their faith upon professional solidarity, and it has inevitably lowered the medical profession in the eyes of some of those whose esteem it is important to maintain, and who have seen only the alteration of tactics and have understood little or nothing of the pressure that has been brought to bear on the medical profession. The organised working classes were quite disposed to sympathise with the medical profession had its members continued a plucky fight. As it is, some of their leaders have not hesitated to sneer at the strike-breakers, although the Public Medical Service was attempting to obtain terms which to some extent militated against the interests of the workmen.

An Ideal Arrangement Realised.

This is the more unfortunate as the object now held in view by many practitioners is to establish a widely and easily applied system of contracting out of the Act so far as the medical service is concerned. But this can never be [illegible] the insured [illegible] efit societies [illegible] lies; and it is through the action of one of the latter, the Seafarers' Union, that almost ideal conditions have been secured for one branch of the work at Southampton. Here the majority of the Seamen's National Insurance Society belong to this very active and bellicose trade union. Their insurance society under Clause 48 of the Act is empowered to make its own regulations in regard to medical service. This society, in its national capacity, decided to appoint in the various ports where it has branches a few selected medical officers to attend those members who fell ill when on shore. But at Southampton they could not do this: the profession was too well organised. It was not possible to apply to individual practitioners, for these latter with great discipline referred the applicants to the Southampton Public Medical Service. The latter is, of course, in favour of the free choice of medical adviser, and would not hear of the proposal to force upon the members of the Seamen's National Insurance Society a choice of medical attendants restricted to five or six specially selected doctors. Besides, who was to make the selection and on what principle would it be made? The Insurance Society's managing committee would naturally have liked to make this selection themselves. It would have added to their importance by enabling them to exercise a piece of patronage, but their argument is that they could better control the medical men on whom they bestowed a remunerative preference. Medical practitioners, however, objected to be controlled by committees of working men; the only control they admit is that [illegible] is *really concerned—namely*, t[illegible] their professional conduct is [illegible] unwritten law of professiona[illegible] medical profession claims for the patient the right both to select and to change his medical adviser till he has found someone in whom he has full confidence. Thus it came about that the Seamen's National Insurance Society at Southampton has not been able to secure the services of five or six medical officers; but a much better solution of the difficulty has been forced upon them. They have had to accept the principle of the free choice of medical adviser, and their members can now call upon any of the 60 or so members of the Public Medical Service. They are thus better off than many insured persons who can only choose from the medical men inscribed on a smaller panel. The seamen, therefore, obtain the services of the practitioners who are on the panel and those who are not on the panel; and if any complaint should arise it would be for the entire profession, and not merely a portion of the profession, to deal with it. Then the difficulty that arises when the medical attendant of the wife and family is not on the panel and the insured bread-winner has to call in another, and to him, unknown practitioner, is removed. Every practitioner belongs to the Public Medical Service, though they are not, of course, all on the panel.

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[1] See THE LANCET of Feb. 13th, 1904, article on "The Battle of the Clubs," and June 24th, 1911, p. 1731.

The Giving of Unnecessary Offence.

A satisfactory arrangement having thus been made with one important labour organisation, one is bound to ask if this example could not be extended to other similar bodies? The fact that Clause 48 of the Act only applies to a few organisations constitutes a negative reply; but much could be done if good-will was displayed on both sides. Unfortunately, my Southampton experience tends to show that a good many medical men have injured their position and opportunities by expressions and conversations which have displayed more prejudice than sagacity. Considering the large share of representation and influence that the organised working class must exercise on the County or Borough Insurance Committee, it is absolutely foolish to give unnecessary offence to the working-class leaders. It has been my good fortune to have personal intercourse with many of the most influential popular leaders, and I cannot render a better service to all parties concerned than to deprecate words spoken on either side which may produce unnecessary and unwarranted friction. It seems to me that in the present state of affairs medical men in particular should measure their language. Thus the opinion has been expressed in Southampton that there were men who would squander in drink the 30*s.* maternity grant given to their wives. Doubtless there may be a few such selfish brutes, but males of this order are not confined exclusively to the working class. In my experience it is in the poorest sections of the community that the greatest readiness and generosity are displayed in helping each other in moments of sickness and difficulty.

The Question of Control.

Nor will any good be achieved if medical men adopt an attitude in regard to lay management which in the event proves a wrong one. To quote the words of a prominent labour leader on the Southampton Borough Insurance Committee: "It is absurd," he said, "to suppose that laymen had any idea whatsoever of exercising a technical control." But, he continued, they could discuss such simple matters as carelessness in giving advice. As elected members on the Insurance Committee it was their duty to maintain the powers the Act had conferred upon them so as to prevent, and if possible to punish, gross incompetence and neglect. A lady member of the Insurance Committee who, being also a member of the board of guardians, knew something of the condition of the poor, gladly—in fact, enthusiastically—recognised that as a rule the medical practitioners of Southampton did their best for their patients, and that there was no fault to find. But there were exceptions even in Southampton, as all knew full well. Besides, a tribunal was needed to judge matters not solely from the point of view of the medical profession, for the public was equally concerned in the safeguarding of its interests. Under these circumstances it was urged that there was no other course open than that of making the best use possible of the Borough and County Insurance Committees and the Medical Service Subcommittees. But the control was to be a business and administrative control, and would not interfere with scientific and technical matters.

(*To be continued.*)

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The New Lecturer in Mental Diseases at the University of Liverpool.

THE Council of the University at its meeting held on Feb. 25th appointed Dr. T. P. Cowen, medical superintendent of the County Asylum, Rainhill, to the lectureship in mental diseases rendered vacant by the resignation of Dr. Joseph Wiglesworth, late medical superintendent of Rainhill County Asylum.

University of Liverpool: Proposed Veterinary Hospital.

Professor Ernest E. Glynn, who was recently appointed to the chair of pathology at the University in succession to the late Sir Rubert Boyce, delivered a public inaugural lecture on Feb. 21st on the Study of Disease in Domesticated Animals. He strongly advocated the addition of a veterinary hospital to the School of Veterinary Science in Liverpool.

David Lewis Northern Hospital.

A special service in aid of the funds of the above hospital was held on Sunday, March 2nd, at St. Luke's Church. The Lord Mayor and members of the city council attended in state. The sermon was preached by Archdeacon Fletcher, of Chorley. The service was also attended by members of the committee and several of the honorary medical staff of the hospital. The collection realised £61.

March 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Medical Certificates under the National Insurance Act.

A SUM of £50,000 has been given Ireland towards the cost of medical certificates of sickness and other expenses of administration, owing to the absence of medical benefit in Ireland, and at present negotiations are going on between the Conjoint Committee and the Insurance Commissioners as to the rate of payment for certificates. Both parties have agreed to the principle of remuneration based on a capitation rate, and that a sum representing a penny per insured person should be deducted from the £50,000 to defray expenses of administration by Insurance Committees, and a further limited amount for payment to hospitals in respect of certificates given to out-patients. The Commissioners have submitted for the consideration of the Conjoint Committee three schemes; in the first there are three broad divisions (the capitation rates in which would be 1*s.*, 2*s.*, and 1*s.* 2*d.*): (1) six county boroughs (Dublin, Belfast, Cork, Limerick, Londonderry, and Waterford); (2) the most inaccessible areas; and (3) other parts of Ireland. In scheme No. 2 there are four classes, the respective rates being 9*d.*, 2*s.*, 1*s.* 4*d.*, and 1*s.* 6*d.*—namely, (1) the six county boroughs and towns of over 10,000 population; (2) the most inaccessible areas; (3) the counties with a net acreage per person of less than 7; (4) the counties with a net acreage per person of 7 and upwards. In scheme No. 3 Ireland is divided into four classes as follows (the respective capitation rates being 10*d.*, 2*s.*, 1*s.* 3*d.*, and 1*s.* 6*d.*): (1) the six county boroughs and towns of over 10,000 population; (2) the most inaccessible areas; (3) the counties with a net acreage per person of less than 7; (4) the counties with a net acreage per person of 7 and upwards. It is assumed that in Ireland there will be 750,000 insured persons. The Commissioners also offer for consideration a capitation fee of 4½*d.* (exclusive of drugs) for the domiciliary treatment of insured persons suffering from tuberculosis, this rate to be in addition to the capitation rate for medical certification.

Maternity Benefit in Ireland.

A conference of Approved Soc [illegible] by the Irish National Health Insurance [illegible] the Gresham Hotel, Dublin, on Fe [illegible] considering the administration of [illegible] arranging a basis of fees betwee [illegible] midwives, and insured persons. [illegible] mission (Mr. J. A. Glynn), who presided, in the course of an address, made several suggestions to the representatives of the societies. In opposition to the view of the Local

Government Board that only in exceptional cases might attendance on a patient entitled to the maternity benefit be given under the Medical Charities Act, Mr. Glynn held that only in exceptional cases should a fee be paid to either medical man or midwife. With regard to the fee that ought to be paid, the chairman said that, having considered the matter carefully and obtained the best advice possible, the Commissioners thought that the fee for the doctor should be 7*s.* 6*d.*, or for the nurse 5*s.* In Wales 15*s.* had been agreed upon as a suitable fee for the attendance of a medical man, but he thought such a fee too high in Ireland. He further declared that the Commissioners would approach the Local Government Board with a view of getting societies and boards of guardians to agree as to the class of case for which tickets might be issued under the Medical Charities Act. Resolutions in accordance with these views were passed unanimously. Mr. Glynn's proposals will certainly not be acceptable to the medical profession, and it is very unlikely that any medical man will be persuaded to work for the miserable fees offered. The decision as to what patients may rightly be attended as "poor persons" under the Medical Charities Act is a matter for individual guardians under advice from the Local Government Board and subject to correction by the courts. The Local Government Board a few weeks ago issued a circular letter dealing with the question, and it is entirely outside the purview of the Insurance Commissioners. In making a suggestion as to a suitable confinement fee, Mr. Glynn declared that the Commission had obtained "the best advice possible." It is noteworthy that neither the medical nor nursing members of the Advisory Committee were consulted, nor was the Conjoint Committee as representing the medical profession. The suggestion that the fee in Ireland should be only half that in Wales is monstrous, in view of the much greater distances that have to be travelled in rural Ireland. £1 is, as a matter of fact, the usual confinement fee paid at present among the industrial classes in the North of Ireland. If the societies agree to Mr. Glynn's suggestion as to the maximum maternity fee they should pay, only one result can follow—the handing over of midwifery practice in Ireland to the cheapest and worst of midwives and to handywomen. For such an event the Commissioners must take the full responsibility.

The Medical Benefit Committee

The committee appointed by Mr. Lloyd George to inquire into the question of the advisability of extending medical benefit to Ireland met in Belfast on March 4th. The committee has refused to hear evidence from Poor-law bodies (though the question of Poor-law administration must be considered), from hospital authorities (although medical benefit without provision for institutional treatment in hospitals is useless), and from the local medical profession. Instead it will hear one person nominated by the conjoint committee to represent many diverse interests. It has [illegible], the Friendly Societies asking [illegible] such representative bodies as [illegible] the *Linen Merchants' Association* have declined the invitation on the ground that such benefits are not needed in Ireland, since similar benefits are already available, and that the inclusion of Ireland would involve additional cost to the community without compensating results. Rightly or wrongly, the general feeling is that a scheme is already arranged and that the hearing of evidence is a mere placebo to the public, and that on Jan. 1st, 1914, medical benefit will be in existence in Ireland.

Belfast Practitioners and the Medical Benefit Committee.

At a largely attended meeting of the medical profession of Belfast and district held in the Medical Institute on Feb. 27th, a resolution was passed unanimously expressing regret and surprise that the Committee on Medical Benefits had refused to hear the members selected on Feb. 13th by the local practitioners to give evidence. The meeting again tendered the names of the medical witnesses, and urged that it was essential that they be heard, as representing the various views of medical men in the largest industrial centre of Ireland. The meeting also urged the committee to receive evidence from practitioners in other urban and rural areas of the North of Ireland.

Presentation to Dr. George Sigerson.

The friends and admirers of Dr. George Sigerson met last week to present him with a portrait of himself, by Mr. J. Lavery, as a token of their esteem. Dr. Sigerson has been professor of biology in University College, Dublin, for a great many years, and, apart from his medical work, has gained distinction as a poet and a Gaelic scholar.

March 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Association Internationale de Perfectionnement Scientifique et Médical.

THE annual general meeting of this association will take place at the end of May, under the presidency of M. Aristide Briand, President of the Council and Minister of the Interior, when the following medals of honour will be presented: the medal for Social Service (*du Bien Social*) to Her Majesty the Queen of the Belgians; the medal for Scientific Merit to Professor Armand Gautier; and the Association medal to Professor Ehlers, of Copenhagen. Cards of admission can be obtained by writing (enclosing postage for reply) to the President of the A.P.M., 12, Rue François Millet, Paris XVI.

The Degree of Doctor of Medicine.

I have already referred to certain resolutions carried at the meeting of the Superior Council of Public Instruction The council has also decided to increase the fees. Under the present *régime*, which dates back to 1893, the fees amount to 1395 francs. They are now to be increased by 245 francs to a total of 1640 francs, of which 950 francs will go to the universities and 600 to the Treasury.

The Treatment of Peritoneal Infection by Ether.

M. Souligoux stated at the Société de Chirurgie on Feb. 19th that he used ether habitually in the treatment of infections generally, and that it could be used to special advantage in peritoneal infections. Last July M. Souligoux saw a woman who had been attacked eight days previously with intestinal obstruction, and who presented abrupt signs of peritonitis with fæcal vomiting and fever. M. Souligoux did not see her until some little time after the onset, and as he diagnosed a rectal stenosis he decided to make an artificial anus in the iliac region. On making the incision, however, a perforation of the intestine was found, filling the abdomen with fæcal material. He closed the perforation, which was in the cæcum, washed out the abdomen with ether, and made an artificial anus, and the patient, much to the general surprise, made a perfect recovery. M. Souligoux has since that time always used ether in peritoneal infections.

The Notification of Infectious Diseases.

M. Doizy, the Deputy for the Ardennes and a member of the Parliamentary Commission on Hygiene, expounded recently to the members of the Société de Médecine Publique et de Génie Sanitaire the defects and the qualities of the law for the protection of the public health. He stated that the notifications of transmissible diseases now being made by medical men in accordance with this law amounted to over 100,000 per annum, while at first they numbered only a few thousands, showing a comparative progress in the practice of notification. He concluded by demanding that the head of the family should be made responsible for the notification, and that a post of inspector or departmental director should be established, upon whom should devolve the carrying out of the sanitary laws.

The Morbidity and Mortality of Diphtheria.

At the last meeting of the Société Médicale des Hôpitaux M. D. Martin said that up to the present Paris and France showed the best statistics in regard to diphtheria. He considered it important to demonstrate this fact by figures. For Paris, in the 14 years (1880 to 1893 inclusive) preceding the introduction of antidiphtheritic serum therapy, the mean annual mortality was 1721 deaths, with a maximum of 2244 in 1882, and a minimum of 1266 in 1890. In the 15 years subsequent to the introduction of serum therapy the annual mean was 348 deaths, with a maximum of 736 in 1901 and a minimum of 174 in 1906. In 1896 the morbidity diminished, yet the mortality increased, following on a statement in 1895 by M. Moizard that in a case of non-diphtheritic angina treated by the serum death had ensued, from which fact both medical men and the public had concluded that the use of the serum was dangerous

The Disinfection of Crèches.

On the motion of M. Poirier, of Narçay, the Conseil Général de la Seine passed a resolution proposed by M. Ambroise Rendu that the council's grant should be restricted to those crèches in the department which possessed disinfecting apparatus for the children's clothes. It further decreed that, except in the case of crèches unprovided with such disinfecting apparatus, the grant should be withdrawn only after consultation with the Conseil Général.

The Treatment of Amœbic Dysentery.

M. Chauffard recently drew the attention of the Academy of Medicine to the Emetine treatment in amœbic dysentery. M. Chauffard had recently treated by this method with very good results a man who had a dysenteric abscess of the liver communicating with the bronchial tree. At the time of beginning the treatment the hepato-bronchial fistula had existed for five months. From 200 to 250 c.c. of reddish purulent material was being evacuated daily, the rectum was ulcerated, the general condition was very poor, and radioscopic examination showed an extensive opacity at the base of the right lung and merging into the hepatic opacity. Between Dec. 21st and 25th the patient received six injections, each of 4 centigrammes of emetine hydrochloride, which were well borne. The expectoration dropped from 200 c.c. to 150 c.c. on the first day, 60 c.c. on the second, and 45 c.c. on the fourth. On the fifth day the patient expectorated only three times, and since then there had been no expectoration. The temperature also fell below 98·6° F. and there remained. The leucocytosis dropped from 49,000 to 19,800, the polynuclear count from 77 to 63. The rectal ulceration had cicatrised and the base of the right lung had become clear. The patient was thus completely cured and had gained nearly 6 kilogrammes in weight.

March 3rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Regulations Concerning the Sale of Food.

NEW regulations concerning the preparation of food in shops and warehouses and its subsequent sale have been lately issued by the Federal Council. The tradesmen chiefly affected are bakers, butchers, grocers, and others engaged in the sale of articles of food. According to the regulations, the places where food is sold or prepared must be clean, dry, and well ventilated. They must not be used as sleeping or sitting rooms, and beds, clothes, linen, and rubbish must not be kept in them. Dogs and cats must not stay in those parts of the premises, and customers must be warned against bringing these animals with them. The floors of places where meat and fruit are sold must admit of being washed. Raw meat carried through the street must be covered with a clean cloth. Persons engaged in the preparation or the sale of food may neither smoke, nor take snuff, nor chew tobacco while at work. Employers are required to provide adequate washing arrangements and a sufficient number of towels. The public is warned against handling meat, fish, bread, pastry, or fruit offered for sale. The police are authorised to enforce observance of the above regulations, and offenders are liable to a fine not exceeding 60 marks (£3).

Medicine and Music.

More than a year ago an orchestra was formed in Berlin consisting of medical men residing in that city, and the circumstance was duly noted in THE LANCET, vol. ii., 1911, p. 263. A further movement in the same direction is now about to be made by the formation of a choral society consisting exclusively of medical men and members of their families. The interest which the profession takes in the matter is shown by the fact that at the inaugural meeting 34 medical men and 37 ladies were enrolled as members. The president is Dr. Singer, a very appropriate name for the occupant of a position in connexion with a choral society.

Jubilee of the Höchster Farbwerke.

The well-known Höchster Farbwerke, one of the largest chemical works in Germany and indeed in Europe, has lately celebrated its jubilee. In a Festschrift published by the firm some interesting particulars are reported with respect to its production of pharmaceutical preparations. The manufacture of such preparations began only in the year 1883, and the first of these substances which was put upon the market—kairine, an antipyretic compound intended to replace quinine—turned out to be a failure. The second one, however, was antipyrine, which has had an immense sale, continuing with little interruption up to the present time. The factory was afterwards engaged in the manufacture of anti-bacterial remedies, beginning with Professor Koch's tuberculin and Professor Behring's antidiphtheria serum. It deserves to be mentioned that the firm gave financial support to the experiments of Professor Behring when he was unable for want of funds to continue them, and when it was still quite uncertain whether the experiments would lead to a practical result. The synthesis of suprarenin was another of the successes achieved by the Höchst factory. One of its most recent productions is generally known as salvarsan, and was introduced by Professor Ehrlich, whose experiments leading up to its discovery also, I am informed, received financial assistance from the firm.

Congress on Physiotherapy.

An International Congress on Physiotherapy will be held in Berlin from March 26th to the 30th under the patronage of H.R.H. Prince August Wilhelm of Prussia, Doctor of Laws. The presidents are Professor His and Professor Brieger, of Berlin. The principal subject of discussion will be the treatment of disorders of the circulation. The work of the congress will be divided into four sections—namely, (1) Hydro-, Balneo-, and Climatotherapy, introduced by Professor Brieger; (2) Electro- and Radiotherapy, introduced by Professor Oppenheim, Dr. Bickel, and Professor Levy-Dorn; (3) Orthopædy, introduced by Professor Joachimsthal; and (4) Dietetic Treatment, introduced by Professor Strauss. The honorary general secretary is Dr. Immelmann, Lützow-strasse 72. An exhibition of objects of interest will be formed in connexion with the congress. The medical profession of Berlin will entertain the members of the congress at a conversazione. The programme includes a concert and a "cabaret," in which all the performers will be medical men and their wives.

Statistics of Suicide.

The number of suicides in Prussia showed a slight decrease during the year 1911, when 21 cases were registered for each 100,000 of the population, as compared with 22 in 1910. The actual number of persons who took their own lives was 8422, of whom 6394 were men and 2028 were women. The relatively highest proportion of suicides—namely, 35 for each 100,000—occurred in the province of Brandenburg; next came Berlin with 32 per 100,000. The tendency to commit suicide increases with the age, the proportion per 100,000 at various age periods being as follows: between 15 and 25 years, 17; between 20 and 25 years, 25; between 30 and 40 years, 23; between 60 and 70 years, 52; between 70 and 80 years, 61; and over 80 years, 63. The causes of suicide especially in advanced age are not always very clear. About 25 per cent. of suicides are said to be caused by insanity. In 879 cases bodily suffering, in 600 cases alcoholic excess, in 942 cases sorrow, and in 604 cases remorse were the causes assigned. In 1786 cases the cause was absolutely unknown. It is remarkable that certain days of the week showed a greater number of suicides than others. The smallest number of suicides happened on Fridays and Sundays, and the highest number on Mondays and Tuesdays.

Society for Sexual Science.

A new medical society for the study of sexual science has been formed in Berlin, the provisional committee including Professor Eulenburg, Dr. Magnus Hirschfeld, Dr. Koerber, Dr. Iwan Bloch, and others. The objects of the new society are the investigation of the sexual life according to scientific principles and the promotion of interest in these researches among the medical profession. Ordinary membership is reserved to medical men and medical women exclusively; members of other professions are eligible as extraordinary members. At the inaugural meeting Dr. Bloch will read an address on the future work of the society, and Dr. Hirschfeld will show wax casts of hermaphrodites. In the subsequent meetings papers will be read by Professor Eulenburg on sexual neurasthenia, by Dr Burchard on sexual infantilismus, by Dr Adler on the frigidity of women, and by Dr Rohleder on artificial impregnation.

March 3rd

NOTES FROM SOUTH AFRICA

(FROM OUR OWN CORRESPONDENT.)

Cape Medical Council Election

THE triennial election for the Cape Medical Council has just been held, resulting in the return of Dr W Darley Hartley, Dr John Hewat, M L A, Dr A J Gregory, and Dr D J Wood. On all matters of medical policy the candidates were more or less in complete agreement, and the election was decided mainly on personal issues. But a regrettable feature of the election was a series of scurrilous letters that were published locally attacking Dr A J Gregory with a view of detaching votes from his candidature. His return to the Cape Medical Council, on which for many years he was, as medical officer of health for the colony, an *ex officio* member, is particularly welcome, in view of the fact that that body probably will have to criticise on behalf of the profession, before its term of office expires, not only the Draft Union Medical Bill, but also any proposed public health legislation.

South African Order of Nurses

During the last few months the committee appointed to promote Lady Gladstone's scheme for inaugurating a South African Order of Nurses in commemoration of the reign of King Edward VII has been exceptionally busy. A number of meetings have been held and draft regulations prepared. Miss Childe, matron of the Government Hospital, Maseru, Basutoland, has been appointed organising matron, subject to the consent of the Government of Basutoland. The committee has been actively canvassing for funds from the public, and during the past three months street collections have been held in all the principal towns in the Union, but the response has by no means been as generous as might reasonably have been expected, and the total funds available are not likely to exceed £15,000. The fact is that South Africa is very lukewarm with regard to the scheme itself. The main reason for the apathy displayed would seem to be that the public does not realise properly the exact objects of the scheme. The large towns, where the strongest appeal for support has been made, are, on the whole, fairly well equipped with nurses and with hospitals, and their inhabitants have in a sense resented being asked to put their hands in their pockets to assist people less fortunately situated elsewhere. Again, the medical profession is perhaps even more lukewarm than the general public in support of the scheme. The profession did not wish the memorial to take its existing form and would have preferred a sanatorium for consumptives. It even perhaps regards with a certain amount of suspicion the proposal to send nurses out into the country districts. Again, nurses in private practice are generally hostile to the scheme through fear of competition. Had the memorial taken the form of a sanatorium for consumptives, doubtless the movement would have been accorded the warm support of the medical and nursing professions, and had this been secured the response to the appeal would have been infinitely more generous. It is true that a considerable section of the community do not see any necessity for a memorial to be established at all. The Afrikander farmer in particular has been quite *apathetic, if not actually hostile, although it is mainly* for the benefit of this class that the present scheme is being inaugurated. In most cases this is not due to lack of loyalty, but because the idea of voluntarily subscribing anything except in support of the Church is foreign to this section of the community. This is well exemplified by the memorial fund raised in connexion with the late Jan Hofmeyr, for many years the leading politician in South Africa, which closed recently at £1600, after being open for some two years and after every effort had been made by the leaders of the Bond to induce the members of that organisation to give freely to the memorial instituted in honour of its founder. The amounts received for the Order of Nurses have been collected almost entirely from the inhabitants of the towns, and, though the response has been generally dis- [illegible]

[illegible] South Africa is insufficient for the hospitals of the country and for the requirements of ordinary private practice in the towns. It would, therefore, seem likely that the Committee will find great difficulty in obtaining trained nurses of any sort, and that it will be unable to demand of them that they know the two languages. It will be necessary for the nurses who join the Order to be stationed in small villages, and they will have to carry on their work for the most part on farms amid the primitive and comfortless surroundings of the backveld. It is probable that nurses, who have hitherto been in a position to pick and choose their work to a large extent owing to the demand exceeding the supply, will not be willing to join the Order unless they are offered high salaries. The shortage of nurses is indeed a serious problem to be faced by everyone. The number of institutions is rapidly expanding, whilst the medical councils have in recent years struck off the list a number of training schools altogether, and in certain of the others extended the curriculum to such an extent that it is practically impossible for the managers to recruit probationers. The prospects of the scheme at the moment do not appear rosy.

South African Defence Act

A most extraordinary circular has recently been issued to resident magistrates by the Department of Defence for the information of the medical profession. It furnishes generally the requirements of the department in the matter of the medical examination of recruits for the Active Citizen Force, and requests medic [illegible]
in their names and [illegible]
which recruits may [illegible]
For each examination a fee of 5*s* only may be claimed. The whole circular is regarded as somewhat unfortunately worded. In the first place, it is evident that a thorough physical examination of every recruit is expected. If the examination is to be as thorough as the certificate indicates, it will take time and care on the part of an examining practitioner, and any fee of less than half a guinea would be ridiculous. The circular states that "medical officers who wish to do so may claim five shillings for each certificate." As thus phrased it clearly places the onus of demanding even the fee of 5*s* upon the practitioner. If he wishes to do so he may claim the fee, the inference being that the Government hopes but hardly expects, the practitioner to be patriotic enough to do the work for nothing at all. The real inducement, however, to the profession to volunteer appears in another clause of the circular, which reads as follows:—

> Later on the Government will have occasion to invite medical [illegible] ll to undertake [illegible] line of war, in [illegible] Incidentally [illegible] stributing the [illegible] actitioners are [illegible] ill be given to [illegible] force medical officers.

This is very objectionable, and at the least can only excite suspicion in the minds of practitioners that all is not as it should be. It is understood that the Government does not intend to organise any medical corps in connexion with the defence forces of the Union, at any rate within the next year, but expects to be able to muddle along with the aid of private practitioners. Thus the existing volunteer medical units will disappear and are not to be incorporated in the new defence force, as is the case with combatant corps. This seems to be regrettable, for new medical corps will not be easy *to create, while the experience gained in South African wars* has shown the necessity of an efficient organisation being created in advance. It is to be hoped that the existing volunteer corps may yet be saved.

Jan 7th

LONDON HOSPITAL MEDICAL COLLEGE.—The second of two lectures in clinical surgery will be delivered by Sir Frederic Eve on Tuesday, March 11th, at 1 P.M., in the clinical theatre of the hospital. The subject is Malignant Tumours of the Long Bones: their Pathology, Symptoms, and Treatment. The attendance of members of the medical profession is invited.

Obituary.

PHILIP HAIR, M.D. EDIN.,

PHYSICIAN TO THE CARLISLE DISPENSARY.

Dr. Philip Hair, the oldest medical practitioner in Carlisle, died somewhat suddenly last month, in his seventy-second year of age. He was the second son of James Hair, of Carlisle, and he received his medical education at Edinburgh, where he graduated M.B. and C.M. in 1866, obtaining the M.D. degree two years later, and being awarded the gold medal for his thesis on the Muscular Fibres of the Alligator. This thesis was published in the *Journal of Anatomy and Physiology*. For a time he was assistant demonstrator of anatomy in the University to Professor Goodsir and Professor (now Sir) William Turner, subsequently going to Paris, where he added to his professional knowledge and acquired great fluency in the French language. In this connexion it is of interest that when a decade or so ago Dr. Blanc and Dr. Forrestier of Aix-les-Bains visited Carlisle as the guests of the late Dr. Ware, Bishop of Barrow-in-Furness, and attended a meeting of the local medical profession, Dr. Hair returned thanks to the visitors in an eloquent speech in their own tongue. After his return from Paris Dr. Hair was elected surgeon to the Carlisle Dispensary in 1873, and later in 1898 became one of the physicians, a position which he held at the time of his death. In this institution he took a keen and active interest for more than 40 years.

Dr. Hair played a prominent part in two leading law cases. Some years ago he brought an action against the corporation of Carlisle with regard to the drainage of his house, the case being taken to the Court of Appeal and decided in his favour, and Hair *v.* Hill was for many years a precedent in such cases, though the decision was later upset by another similar case. An action which he brought against the North-Eastern Railway Company resulted in defining the meaning of the law as to the liability of railway companies for damage caused by sparks from engines. Dr. Hair leaves a widow and a daughter.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Baudouin, formerly inspecting physician of the French Military Medical Service.—Dr. Manuel Araujo, President of the Republic of Salvador.—Dr. Giovanni Giudice, *agrégé* of the Turin Medical Faculty.—Dr. Rudolf Frank, *privat-docent* of surgery in the University of Vienna.—Dr. A. Isaac, formerly deputy for the Guadeloupe.—Dr. George F. Hanson, formerly professor of materia medica and therapeutics in Cooper Medical College, San Francisco.—Dr. Orville Horrwitz, formerly professor of genito-urinary diseases in Jefferson Medical College, Philadelphia.—Dr. James P. Tuttle, professor of diseases of the rectum in New York polyclinic medical school and hospital.—Dr. Henry Hervieux, professor of medical pathology in Laval University, Montreal.—Dr. W. J. van Stockum, senior medical officer of the Coolsingel Hospital, Holland.—Dr. Martin Gastesi, of the Dámaso Larrañaga Hospital, Montevideo.—Dr. Jacino Sicardi, a distinguished ophthalmologist and chief of the eye clinic of the San Roque Hospital, Buenos Aires. He had been assistant to Professor Reymond in Turin.—Dr. Ernest Palmer, professor of clinical gynæcology in Long Island College Hospital, Brooklyn.—Dr. Robert Murray, formerly director-general of the United States Military Medical Service.—Dr. Dhourdin, formerly professor of anatomy in Amiens.—Dr. Clavel, formerly inspecting medical officer of the French colonial troops.—Dr. L. Lantschner, formerly *privat-docent* of surgery in the University of Innsbruck.—Dr. J. Menno Huizinga, medical officer of health, Amsterdam, aged 63.—Dr. Arnold L. G. Heller, professor of general pathology and pathological anatomy in the University of Kiel. He had been a pupil of Rokitansky in Vienna, and afterwards lectured on pathology in Erlangen, whence he was invited to Kiel in 1872, and held the chair there until his death. He published researches on the parasites of the liver and intestines, on the cause of tuberculosis, and many other pathological questions.—Dr. H. Litzmann, Medical Privy Councillor, of Altona.—Dr. F. W. Benicke, Medical Privy Councillor, of Berlin.

THE NATIONAL INSURANCE ACT.

THE WORKING OF THE ACT.

THE time that has elapsed since the coming into force of the National Insurance Act does not allow of many definite statements to be made about its working in general and throughout the country, although many indications are fairly clear. But it is certain that one set of circumstances may press hardly in one locality and have little significance in another, while the character of the work and the *personnel* of the patients (to mention two very obvious things) will differ in different parts of the country and thus will affect the administration of medical benefit. We begin this week a series of articles by one of our staff, who has begun a course of personal investigation into the conditions under which medical benefit is being provided. When the time comes in which we have to press for amendments it will be of great value to have first-hand evidence upon which to act.

ADMINISTRATION OF SANATORIUM BENEFIT.

THE following is the text of the Memorandum on the *Administration of Sanatorium Benefit*,[1] *signed by* Mr. C. F. G. Masterman, and presented to both Houses of Parliament.

1. "Sanatorium benefit" consists of treatment given at the cost of the National Health Insurance Fund to persons suffering from tuberculosis or such other diseases as the Local Government Board, with the approval of the Treasury, may appoint. For the time being the benefit is confined to the treatment of tuberculosis.

2. The first duty of an Insurance Committee with respect to sanatorium benefit is to make provision for the treatment of cases of tuberculosis occurring among insured persons, for the administration of whose benefit they are responsible. They may, if they think fit, extend treatment to the dependents of insured persons or to any class of such dependents.

3. Treatment for purposes of sanatorium benefit may be given: (*a*) In sanatoria, hospitals, or other residential institutions; (*b*) at tuberculosis dispensaries or other non-residential institutions; (*c*) in the patient's home.

4. In administering the benefit Insurance Committees are not empowered by the Act themselves to provide institutions. Their duty is to make arrangements with suitable persons or local authorities for this purpose. All such arrangements are required by the Act to be made to the satisfaction of the Commissioners. In the case of those who require treatment in institutions the arrangements must be made with persons or local authorities (other than Poor-law authorities) having the [illegible] other institutions approved by the [illegible] treatment is required otherwise [illegible] must be made for it to be given by persons or local authorities (other than Poor-law authorities) undertaking such treatment in a manner approved by the Local Government Board.

5. Recognising that, notwithstanding what had already been effected by local authorities and voluntary effort, the available means of organised expert treatment in the form of sanatoria, hospital accommodation or dispensaries was far short of the needs of the population, Parliament provided under the Finance Act, 1911, a capital sum of £1,500,000 for the United Kingdom to aid the provision of institutions for the purpose. Having regard to the capital sum thus provided and in view of the early operation of the Insurance Act, it became advisable to consider the whole question of tuberculosis in all its bearings, and the Government accordingly appointed, in February, 1912, a Departmental Committee "to report at an early date upon the considerations of general policy in respect of the problem of tuberculosis in the United Kingdom, in its preventive, curative, and other aspects, which should guide the Government and local bodies in making or aiding provision for the treatment of tuberculosis in sanatoria or other institutions or otherwise."

6. In view of the fact that the provisions of the Insurance Act relating to sanatorium benefit came into operation on July 15th, 1912, the Committee issued in April an interim report in which they laid down, for the assistance of all concerned in the administration of measures dealing with tuberculosis, whether among the insured or non-insured sections of the population, the broad lines of the scheme which they recommended for adoption in every area, and the recommendations of the Committee were concurred in, generally, by the Local Government Board and the Insurance Commissioners.

7. [illegible] Committee recognised that the provision for [illegible] when occurring among insured persons could [illegible]sidered as a separate problem. They made it their object "to take into consideration the existing machinery and funds available, and to indicate the lines upon which, in their view, a national and comprehensive scheme for co[illegible] in all its forms may be established and developed [illegible] to devise a scheme in which may be united [illegible] of the various bodies, authorities, and persons concerned, so as to ensure that adequate provision for the prevention and treatment of the disease should be made available on a systematic basis, as far as possible uniform in character, but not necessarily identical in detail, throughout the United Kingdom."

8. For the proper development of satisfactory schemes of administration in each area on the lines laid down in the report of the Departmental Committee, time was required in order that Insurance [illegible] County Borough Councils, and the other [illegible] concerned might consider the matter and [illegible]s also required, obviously, for the *erection*

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[1] Published by H.M. Stationery Office, and obtainable from Wyman and Sons, Limited, Fetter-lane, E.C. Price 1d.

10. *England.*—Except in a few of the larger county boroughs, where officers had already been appointed and dispensaries equipped under the Public Health Acts, the Insurance Committees generally secured the services of the medical officer of health as their medical adviser to

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Inverness. In some cases a lump sum payment for the use of the dispensary by

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Figures are appended to the Memorandum illustrating the operation of sanatorium benefit for the first four months up to Nov. 20th, 1912. In this period 3773 persons received sanatorium benefit. Of this number 2172 were treated in residential institutions, 587 at dispensaries, and 1014 at home under the care of private practitioners, the total cost being £37,640. Later figures, obtained since Nov. 20th, bring the total number of insured persons and their dependents who have received under the Insurance Act treatment in residential institutions in the period ending Feb. 4th, 1913, up to 4753.

A COMMITTEE ON DRUGS.

A committee has been appointed, consisting of Mr. J. Smith Whitaker (chairman), Mr. Walter Davies, Mr. J. C. Ledlie, Mr. Claud Schuster, and Dr. Lauriston E. Shaw, to inquire and report whether, having regard to the interests of insured persons in obtaining an efficient and rapid supply of drugs, medicines, and appliances, and to the conditions under which those articles were supplied before the passing of the National Insurance Act, 1911, any alteration is necessary in the conditions laid down by Section 15 (5) (iii.) of the National Insurance Act in respect of the matter. All communications in regard to the Committee should be addressed to the secretary, Mr. James Rae, at the National Health Insurance Commission (England), Buckingham-gate, London, S.W.

MIDDLESEX INSURANCE COMMITTEE.

AT its monthly meeting on March 3rd the Middlesex Insurance Committee decided to approve of a basis of payment to medical men on the panel. The following scale of charges was approved:—

	s.	d.
1. Attendance on patients at practitioners' residence or surgery...	1	0
2. Visit to patient's residence	2	0
3. Special visit	2	6
4. Night visit	2	6
5. Surgical operations	10	6
6. Administration of general anæsthetic...	10	6
7. Setting of fracture	10	6
8. Dislocation	10	6

It was explained that these figures were units, on the basis of which payments to medical men from a pool would be computed.

Some members expressed the opinion that the charge for night visits was not sufficient, and in reply the chairman of the committee, Mr. W. S. Glyn Jones, M.P., said that the scale was one suggested by the Ealing Division of the British Medical Association for a public medical service.

Mr. E. W. Lowry, of Brentford, moved a resolution in favour of adopting a wider interpretation of Clause 15 (3) of the Act, as to insured persons making their own arrangements, urging that a wide use of contracting out would be of great advantage to the Committee, the medical profession, and the insured. The motion, however, was lost by a large majority, only five voting in favour.

A BUSINESS INSURANCE AGAINST SICKNESS.

THE very marrow of the dissension that has been aroused between the medical profession as a whole and the Government over the question of the Insurance Act lies in the interference of the Act with the freedom of the relations between doctor and patient. The profession, for the most part, claims that the relation of doctor and patient should be individualistic if the best interests of the patient, of the public, of the doctor, and of medical science are to be conserved, and that any attempt to control those relations, must inevitably impair their effectiveness. The Government, on the other hand, insists that it would be impossible to organise any insurance scheme for the provision of medical attendance on the masses without some measure of control over the medical men employed, and over their relations with their prospective patients, and it supports its position by reference to the necessity for public control when the expenditure of public money is involved.

We have recently received from a Manchester insurance company a copy of its family medical policy for insuring families against liability for the cost of medical attendance, medicine, and surgical operations, which presents a scheme that, had it been adopted by the Government for the Act, might have in many respects obviated this troublesome clash of interests. Briefly the scheme is this. For each member of the family for whom a policy is taken out the sum of 2*d*. a week, or 7*s*. 6*d*. per annum in advance, secures the payment of all bills for medical attendance during the twelvemonth, including the cost of medicines supplied, whether by medical man or chemist, and surgical operations not exceeding 5 guineas, up to a total cost of £25, the first four visits of the year to each insured person being excluded. The fee allowed for each visit is 2*s*. 6*d*., or 200 visits in all. Double fees for night visits between 9 P.M. and 9 A.M. are allowed, and provision is made for higher fees in the event of the insured being medically attended while temporarily absent from home. Under this plan any medical man in whom the insured has confidence may be called in, subject to the limitation that the fees paid to him shall not exceed the rate of 2*s*. 6*d*.

per visit, exclusive of medicine supplied. It might happen, however, that the family doctor's fee is more than 2*s.* 6*d.* a visit. In such a case either (1) the insured would himself be liable in the ordinary way for the difference between the stipulated fee of 2*s.* 6*d.* and that actually charged for each visit; or (2) a higher premium could be arranged to cover the liability at a higher fee per visit. When the medical attendance is complete the practitioner renders his detailed account in the ordinary way to the patient, who, after checking it—which he would naturally do, so that what is practically his deposit account of £25 with the insurance company created by his policy shall not be unduly depleted—sends it to the company. The company at once settles the account, either direct with the practitioner or by sending to the insured a crossed cheque drawn in the medical attendant's favour. The insured's medical expenditure is thus limited to the cost of the first four visits (viz., 10*s.*), and the medicines supplied therewith, in any one year, plus the small weekly or annual premium. He has really the doctor of his choice, and is not limited therein by any panel; he is subjected to no vexatious restrictions, but proceeds exactly as he has always done, calling in the doctor in the ordinary way when he wants him, falling back on any other doctor if his own be not available, and changing his doctor, as he does now, without let or hindrance when he pleases and without needing anyone's consent. The doctor, for his part, enters into no other arrangements beyond those of ordinary practice, but he obtains immediate settlement for his fees for all visits after the first four, for surgical operations (up to 5 guineas), and for medicines supplied. His bad debts are thus reduced, the capital value of his practice should be increased, there is absolutely no interference of any kind between him and his patients, no departure is made from his ordinary methods, and no control or regulation exercised by any external authority. He is a free worker, as hitherto, but with this advantage—that he can depend on his fees being promptly settled in the case of all those of his patients who are thus insured.

The Insurance Act being compulsory on all workers of a certain class—who, indeed, are on the whole the least liable in the family to sickness—this provision is primarily intended not for them, but for the unprotected members of their families, men, women, and children, between the ages of 1 and 50 years. But some of the compulsorily insured who, in order to retain the services of the medical man of their choice, if he does not happen to be on the panel, must consent to forego the benefit of their compulsory premiums and meet out of their own resources the fees of their chosen medical attendant, may be glad to avail themselves of this opportunity of lessening their burden. This new departure in insurance, we are told, has been most cordially received by a large number of medical men in industrial districts, especially in the North of England.

The Insurance Committee for the County of London has removed from 3, Pall Mall East, London, S.W., to 5, Chancery-lane, London, W.C.

THE MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (HAMPSTEAD AND NORTHWOOD).—The annual court of governors of this charity, the anxious position of which was described in THE LANCET last week, will be held at 7, Fitzroy-square, London, W., on Wednesday next, March 12th, at 4 P.M., Lord Zetland, the president, in the chair. The committee will present a report of its proceedings and of all receipts and disbursements relating to the hospital during the past year and of the general state of the hospital. The following motion will be submitted for the approval of the governors:—

> That the committee of management of this institution be instructed to submit the hospital, situated at Hampstead, for sale by public auction or otherwise, and to take such steps as counsel may advise for vesting such hospital in the purchaser.

Dr. F. W. Tunnicliffe, chairman of the medical board, will bring forward the following amendment:—

> Considering that the entire medical and surgical staff has expressed the considered opinion that on medical grounds it is not practicable to conduct a chest hospital in the true sense of the term at Northwood, this meeting directs that the further consideration of the chairman's resolution be deferred until March, 1914, and that the committee of management be called upon to exercise, if necessary, the powers conferred upon them at the last meeting of governors to separate the two institutions with the view to "a further and better perpetuation of the hospitals at Hampstead and Northwood."

Medical News.

UNIVERSITY OF CAMBRIDGE.—The degree of M.D. has been conferred upon Mr. W. R. Honeyburne, Peterhouse.

UNIVERSITY OF OXFORD.—Mr. P. E. H. Adams, B.M., F.R.C.S. Eng., has been elected to the Margaret Ogilvie Readership in Ophthalmology.

UNIVERSITY OF SHEFFIELD.—The Council at its last meeting appointed Miss Sophia M. V. Witts, M.D. Lond., to the newly instituted post of lady tutor in anatomy

UNIVERSITY OF LONDON: KING'S COLLEGE.—The following appointments have been made in the Department of Public Health:—Dr. E. W. Routley, medical officer of health, Aldershot, as lecturer in sanitary law and administration; Colonel W. G. King, C.I.E., M.D., late Sanitary Commissioner in the Madras Presidency, as lecturer in applied hygiene in the tropics; and Dr. W. F. Roach, as lecturer on school hygiene for medical officers. The laboratories of the College occupy part of the premises of the Charing Cross Hospital Medical School, 62, Chandos-street, W.C.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. R. Cassirer, *privat-docent* of neurology, has been granted the title of Professor.—*Cagliari:* Dr. Carlo Ceni, extraordinary professor of neurology and psychiatry, has been promoted to Ordinary Professor.—*Catania:* Dr. Pietro Stancanelli, of Naples, has been recognised as *privat-docent* of Dermatology and Syphiligraphy.—*Florence:* Dr. Giuseppe Pasetti has been recognised as *privat-docent* of Ophthalmology.—*Padua:* Dr. Mario Fontana, of Rome, has been recognised as *privat-docent* of Physio-therapeutics.—*Palermo:* Dr. Erasmo Scimeni, of Messina, has been appointed Professor of Clinical Ophthalmology.—*Philadelphia Medico-Chirurgical College:* Dr. John J. Gilbride has been appointed Lecturer on Anatomy.

CENSUS OF HOMELESS PERSONS IN LONDON.—The census of homeless persons, taken every year in London on a night in February, showed this year a total of 649, a figure less by 554 than the total for 1912, and the lowest recorded number. This was accompanied by a fall of 973 in the number of inmates of common lodging-houses. The Public Health Committee, reporting to the London County Council on the matter on March 4th, expressed the opinion that this remarkable result pointed to the fact that, in addition to changes in the administration of the Poor-law, there were other unrecognised forces exercising a determining influence on these sections of the community. The committee noted that although the Metropolitan Casual Paupers Order, 1911, had brought about a considerable reduction in the number of persons resorting to casual wards in London, there had not been any increase in the number of vagrants in casual wards in areas adjoining the County of London.

ROYAL SUSSEX COUNTY HOSPITAL.—The effect of the Insurance Act was commented upon at the annual meeting on Feb. 26th of the Royal Sussex County Hospital at Brighton. It was stated that the weekly average of out-patients and casualties since Jan. 15th, 1913 (the date of the operation of the Insurance Act), had dropped by about one-third, but the number of in-patients was at exactly the same figure as in the corresponding weeks of last year. There was still misconception of what the medical benefits of the Insurance Act would do, but, said Mr. C. Scrase Dickins, the President, in the midlands and in the north employers of labour were recognising that it would not do to cease their contributions to voluntary hospitals. On the subject of the Insurance Act the following note from the annual report is to the point: "In spite of the adverse circumstances, the amount received in subscriptions is more than in 1911. The feared extinction of the voluntary hospitals is not come yet, and there is no indication that the people of Sussex desire to see anything of the kind take place. It is to be hoped that both employers and employed begin to realise more fully that, except in the case of tuberculosis, the Insurance Act provides no substitute for hospital in-patient treatment, and that the classes which needed it before will continue to need it now *Time will show whether there will be a sufficient* reduction in the number of out-patients to make possible any alteration in the existing arrangements It was never expected that the call on the beds would diminish, and the experience of last year does not indicate that it is likely to do so " The total number of in-patients during the year was 2709, as compared with 2690 in 1911, and out-patients 10,568, as against 10,340

CENTRAL MIDWIVES BOARD —A special meeting of the Central Midwives Board was held on Feb 27th at Caxton House, Westminster, Sir Francis H Champneys being in the chair The Board considered the following charges, *amongst others, against the midwives whose names are given* below, and ordered them to be struck off the roll —Mary Ann Harman, that being in attendance as a midwife at a confinement, the placenta and membranes not having been completely expelled two hours after the birth of the child, she did not hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 20 (3), and she failed to take the pulse or temperature of the patient, as required by Rule E 13 Catherine Hickman, that being in attendance as a midwife at a confinement, the child suffering from inflammation of, *and discharge from, the eyes, she did not explain that the* case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E 20 (5) Clara Jane Lander, that she was not scrupulously clean, as required by Rule E 1, that she did not take with her to a confinement, nor did she possess, the appliances and antiseptics required by Rule E 2, and that she did not keep a register of cases, as required by Rule E 23 Louisa Lower, that being in attendance as a midwife at a *confinement she did not provide for the comfort or* cleanliness of the patient, as required by Rule E 11, and she falsely stated to the registered medical practitioner in attendance that she had washed the patient when in fact she had not done so Ruth Skelton, that she persistently neglected to comply with the rules of the Central Midwives Board, and that she did not keep her register of cases as required by Rule E 23 Florence Ann Smith, that she was guilty of misconduct in that she fraudulently and with intent to deceive made use of a fictitious document purporting to be the copy of a testimonial signed by the matron of the Monmouthshire Training Centre favourable to her application for appointment to the staff of King Edward VII *Hospital, Windsor, well knowing the same to be false, and* with intent to induce the members of the committee of such hospital to bestow upon her the said appointment Amy Stacey, that being in attendance as a midwife at a confinement she did not adopt the antiseptic precautions required by Rules E 3 and 7, she neglected to take the temperature of the patient at any time being unable to make use of a clinical thermometer and the case being one of stillbirth, and no registered medical practitioner being in attendance, she failed to notify the local supervising authority as required by Rule E 21 (1) Christina Helen Sutherland that being in attendance as a midwife at a confinement the child suffering from discharge from the eyes, she did not explain that the case was one in which the attendance of a registered medical practitioner was required nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner as required by Rule E 20 (5) and that she treated the child s eyes with chloride of mercury and silver nitrate but made no entry of their administration in her register of cases as required by Rule E 18 Sarah Ann Ward that being in attendance as a midwife at a confinement she did not wear a clean dress of washable material, as required by Rule E 1, she did not wash *or scrub her own hands or forearms before touching the* patient s generative organs, as required by Rule E 3, and she did not wash or swab the patient prior to making the first internal examination, as required by Rule E 7 The following midwives were censured after charges against them had been considered Sarah Harris and Flora Wright

DR Louis Vintras, physician to the French Hospital in London, has been made a Knight Grand Cross of the Order of the Knights Hospitallers of St John in Spain

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC —The annual general meeting of this institution will be held at 22 Chenies street, London, W C, on Friday, March 14th, at 5 15 P M, when the chair will be taken by Sir W J Collins, F R C S

THE HUNTERIAN SOCIETY —The annual medal has been awarded to Dr A Graham Stewart for an essay on "Raised Arterial Pressure and Arterio sclerosis" Dr Graham Stewart will read a paper, founded upon the essay, at the annual meeting of the society on April 23rd

HEALTH OF PAIGNTON (DEVON) UNVACCINATED CHILDREN —The medical officer of health of Paignton in his annual report for 1912 states that the death rate was 13 4 per 1000 and the birth rate 16 7 per 1000 He urges the importance of erecting, in accordance with Local Government Board requirements, a special block of buildings for the isolation of small pox cases, as 70 per cent of the children born in Paignton are unvaccinated

DAWLISH (DEVON) COTTAGE HOSPITAL —At the annual meeting of the subscribers to the Dawlish Cottage Hospital, the medical report and the financial statement were satisfactory Mrs Nosworthy has recently completely refurnished the hospital at a cost of £200, and the late Mr E Bayldon bequeathed £100 for its heating apparatus It was unanimously decided that insured persons with no dependents shall be received as in-patients only on payment of three fourths of their sickness benefit

SAMARITAN FREE HOSPITAL FOR WOMEN —The annual general meeting of governors will be held in the board room of this hospital in Marylebone road, London, N W, on Tuesday next, March 11th, at 5 P M, when among *the business to be transacted will be the following* amendment of Rule XII, proposed by Dr F J McCann and seconded by Mr G F Darwall Smith —

That Rule XII shall read —
consist of (1) the governors elect
(2) the following *ex officio* memb
two members of the active staff
mittee and not more than fo
Three members shall form a quorum

TUBERCULOSIS TREATMENT IN MIDDLESEX —The Local Government Board has signified its approval of a scheme prepared by the Middlesex county council for the treatment of tuberculosis The public health committee reported to the council on Feb 27th that the sum available for general tuberculosis treatment having been reduced in consequence of the decision of the Government to earmark 6*d* per insured person in respect of remuneration to general practitioners for domiciliary treatment, only 350 instead of 450 beds could be provided in hospitals and sanatoriums The council should let it be clearly understood that no further beds would be provided until an increased grant from the Exchequer was assured The council approved this report and authorised the public health committee to appoint five tuberculosis officers at a salary of £500 a year each, and two assistant tuberculosis officers at £300 a year each, and to make arrangements for obtaining premises in various parts of the county suitable for dispensaries

BOOKS, ETC, RECEIVED

ALLEN GEORGE AND COMPANY, LIMITED, London
[illegible] By F H Hatch Ph D
[illegible] of the Institute of
[illegible] M A, Demonstrator
[illegible] Price 7*s* 6*d* net

ARN[illegible] M D

BAILLIÈRE TINDALL, AND COX London
Pathological Inebriety its Causation and Treatment By J W Astley Cooper Medical Superintendent and Licensee of Ghyll wood Sanatorium near Cockermouth Cumberland With Introduction by Sir David Ferrier M D F R S Price 3*s* 6*d* net

BALE (JOHN), SONS, AND DANIELSSON, LIMITED, London.

Annual Report on the Results of Tuberculosis Research, 1911. By Dr. F. Kohler, Head Physician of the Holsterhausen Sanatorium, near Werden on the Ruhr. Reprint from the Clinical Year-Book. Edited by Dr. Naumann and Dr. M. Kirchner. Twenty-sixth Volume. Translated by Ronald E. S. Krohn, M.D. Lond. Price 7s. 6d. net.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

Education and Race-Regeneration. By the Rt. Hon. Sir John Eldon Gorst. Price 6d. net.

CLARENDON PRESS, Oxford.

On Aristotle as a Biologist, with a Prooemion on Herbert Spencer. [illegible] Lecture delivered before the University [illegible] 14th, 1913. By D'Arcy Wentworth Thompson. Price 1s. net.

CONSTABLE AND CO., LIMITED, 10, Orange-street, Leicester-square, London, W.C.

Minutes of the General Medical Council and of its Various Committees for the Year 1912, with Twelve Appendices. Vol. XLIX. Price not stated.

DORNAN, WILLIAM J., Philadelphia.

Transactions of the American Surgical Association. Volume the Thirtieth. Edited by Archibald MacLaren, M.D., Recorder of the Association. Price not stated.

FISCHER, GUSTAV, Jena.

[illegible] nforschungen innerhalb eines 2232 [illegible] in Schweden (Provinz Blekinge). [illegible] it fur Psychiatrie und Neurologie an der Universitat Uppsala. Mit einer Vorrede von Professor Max von Gruber in Munchen. [illegible] schwedischen Staates (durch [illegible] schwedischen Gesellschaft fur R [illegible] schen Fonds an der Universit [illegible] Price M.120.

GRATTAN, H. H. G., 17, The Borough, London Bridge, London, S.E.

Pharmacy and Materia Medica for Nurses. By Horace Finnemore, B.Sc. Lond., F.I.C., Pharmaceutical Chemist, Pharmacist to, and Teacher of Pharmacy at, Guy's Hospital. Price 2s. 6d. net; post free, 2s. 9d. net.

GRIFFIN, CHARLES, AND CO., LIMITED, Exeter-street, Strand, London, W.C.

The Year-Book of the Scientific and Learned Societies of Great Britain and Ireland. Twenty-ninth Annual Issue. Price 7s. 6d.

HODGES, FIGGIS, AND CO., LIMITED, Dublin. SIMPKIN, MARSHALL, AND CO., LIMITED, London.

Reminiscences of Sir Charles A. Cameron, C.B. Price 3s. 6d. net.

KING, P. S., AND SON, Orchard House, Westminster, London, S.W.

A [illegible] Public Schools and Social Questions. [illegible] of Clayesmore School, Pangbourne. [illegible]

LAYTON, CHARLES AND EDWIN, 56, Farringdon-street, London, E.C.

Handy Newspaper List. 1913. Price 6d.
The Insurance Register (Life). Price 1s.

LEWIS, H. K., London.

The Bacterial Diseases of Respiration, and Vaccines in their Treatment. By R. W. Allen, M.D., B.S. Lond. Price 6s. net.

LONGMANS, GREEN AND CO., London, New York, Bombay, and Calcutta.

The Chemical Constitution of the Proteins. By R. H. A. Plimmer, D.Sc., University Reader and Assistant Professor of Physiological Chemistry, *University College, London. In two parts. Parts II.* Synthesis, &c. Second edition. Price 3s. 6d. net.

MARLBOROUGH, E., AND CO., 51, Old Bailey, London, E.C.

[illegible] Manual of Conversation. No. 2. [illegible] Dutch. Price, cloth, 1s. 6d. [illegible] Thimm. Revised and enlarged [illegible]. Price, cloth, 2s. 6d.

Portuguese self-taught (Thimm's System). By E. da Cunha. Second edition, revised. Price, cloth, 2s. 6d.

MURRAY, JOHN, Albemarle-street, London, W.

Comparative Anatomy of Vertebrates. By J. S. Kingsley, Professor of Biology in Tufts College. Price 12s. net.

Heredity. By J. Arthur Thomson, M.A., Regius Professor of Natural History in the University of Aberdeen. Second edition. Price 9s. net.

Problems of Life and Reproduction. By Marcus Hartog, M.A., D.Sc., F.L.S., F.R.H.S., Professor of Zoology in University College, Cork. Price 7s. 6d. net.

PEOPLE'S REFRESHMENT HOUSE ASSOCIATION, LIMITED, Broadway Chambers, Westminster, London, S.W.

Public House Reform. Price 6d.

PITMAN, SIR ISAAC AND SONS, LIMITED, 1, Amen Corner, London, E.C.

A Hospital in the Making. A History of the National Hospital for the Paralysed and Epileptic (Albany Memorial), 1859-1901. By B. Burford Rawlings. Price 5s. net.

PUTNAM'S (G. P.) SONS, New York and London.

A History of Nursing. In Four Volumes. Volumes III. and IV. Edited, and in Part Written, by Lavinia L. Dock, R.N., Secretary *of the International Council of Nurses, Graduate of Bellevue* Training School, New York City. Price 21s. net, 2 vols.

A Stitch in Time. By a Roosevelt Hospital Graduate Nurse and a Grateful Patient. Price 3s. 6d. net.

REBMAN, LIMITED, London.

Retinoscopy (or Shadow Test) in the Determination of Refraction at one Meter Distance, with the Plane Mirror. By James Thorington, A.M., M.D. Sixth edition, revised and enlarged. Price 4s. 6d. net.

REID, ANDREW, AND CO., LIMITED, Newcastle-upon-Tyne. LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

Coal, and the Prevention of Explosions and Fires in Mines. By John Harger, M.Sc. Victoria, Ph.D. Heidelberg, M.Inst.M.E. Price 3s. 6d. net.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.

The Principles and Practice of Obstetrics. By Joseph B. De Lee, A.M., M.D., Professor of Obstetrics at the North-Western University Medical School. Price 35s. net.

Obstetric and Gynecologic Nursing. By Edward P. Davis, A.M., [illegible] the Jefferson Medical College, [illegible] oughly revised. Price 8s. net.

Di[illegible] s, and Pancreas. By Robert [illegible] Gastro-intestinal Diseases in [illegible] Medicine. Second edition, revised and enlarged. Price 28s. net.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, London, W.C.

Text-book of Massage and Swedish Gymanastics and Other Exercises. For Masseuses and Nurses. By Thomas D. Luke, M.D., F.R.C.S., Medical Superintendent, *Peebles Hydro* and Kur Hotel. Price 2s. 6d. net.

SHERRATT AND HUGHES, 33, Soho-square, *London*, W., and 34, *Cross-street, Manchester.*

The Deaths of the Kings of England. By James Rae, M.A., M.D. Price 4s. 6d. net.

STATE MEDICAL INSTITUTE. To be obtained through NORDISKA BOKHANDELN, Stockholm.

Investigations on Epidemic Infantile Paralysis. Report from the State Medical Institute of Sweden to the XV. International Congress on Hygiene and Demography, Washington, 1912. Price not stated.

SURGERY PUBLISHING CO., 92, William-street, New York.

Surgical Operations with Local Anæsthesia. By Arthur E. Hertzler, M.D., Surgeon to the Halstead Hospital, Halstead, Kan., and to the Swedish Hospital, Kansas City, Mo. Price 12s., post paid.

TRUTH PUBLISHING CO., LIMITED, London.

Truth Cautionary List for 1913. Price 1s. By post 1s. 2d.

UNIVERSITY PRESS, Cambridge. CAMBRIDGE UNIVERSITY PRESS, Fetter-lane, London, E.C. (C. F. Clay, Manager).

The Vertebrate Skeleton. By Sidney H. Reynolds, M.A., Professor of Geology in the University of Bristol. Second edition. Price 15s. net.

UNIVERSITY PRESS, Cambridge.

Voice Training for Choirs and Schools. By Cyril Bradley Rootham, M.A., Mus.D., *Organist* and Choirmaster, *St. John's College*, Cambridge. Price 4s. net.

UNIVERSITY PRESS OF LIVERPOOL, 57, Ashton-street, Liverpool.

Bacteriology. A Review and an Outlook. An Inaugural Lecture delivered before the University of *Liverpool* on Friday, December 6th, 1912. By J. M. Beattie, M.A., M.D., Professor of Bacteriology, and Bacteriologist to the City of Liverpool. Price 1s.

UNIVERSITY TUTORIAL PRESS, Burlington House, Cambridge, and 32, Red Lion-square, Holborn, London, W.C.

Matriculation Directory. No. 63, January, 1913. Price 1s. net.

YEAR BOOK PRESS, 31, Museum-street, London, W.C.

The Public Schools Year Book. 1913. Edited by H. F. W. Deane, M.A., F.S.A., and W. A. Evans, M.A. Price 5s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALDOUS, GEORGE F., F.R.C.S. Edin., has been appointed Consulting Surgeon to the Tavistock Hospital, South Devon.

BOSANQUET, W. CECIL, M.D. Oxon., F.R.C.P. Lond., has been appointed Physician to the Hospital for Consumption and Diseases of the Chest, Brompton, S.W.

BROWNING, S. H., M.R.C.S., L.R.C.P. Lond., has been appointed Bacteriologist to the Central London Ophthalmic Hospital.

BUSH, JAMES PAUL, C.M.G., Ch.M. Bristol, M.R.C.S., L.S.A., has been appointed Honorary Consulting Surgeon to the Bristol Royal Infirmary.

COCKAYNE, EDWARD ALFRED, M.D. Oxon., M.R.C.P. Lond., has been appointed Assistant Physician to the Middlesex Hospital.

DOYLE, W., M.B., M.Ch. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Colne District of the county of Lancaster.

EVERSHED, A. REGINALD F., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Ophthalmic Surgeon to the London Association for the Blind.

GALBRAITH, SAMUEL NICOL, M.B., Ch.B. Glasg., has been appointed by the Lambeth Borough Council to take Charge of the Municipal Tuberculosis Dispensary.

GATCHELL, HOWARD V., L.R.C.P. & S. Edin., has been appointed Assistant School Medical Officer for Middlesex.

HARRIS, T. A. B., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Burton Latimer District of the county of Northampton.

KING, Colonel W. G., C.I.E., M.B., C.M. Aberd., D.P.H., has been appointed Lecturer in Applied Hygiene in the Tropics at King's College, London.

MACKAY, JAMES FORBES, M.D. Edin., D.P.H., has been appointed [illegible] London.

ROUTLEY, E. W., M.R.C.P. Lond., M.D. Brux., D.P.H., Medical Officer of Health, Aldershot, has been appointed Lecturer in Sanitary Law and Administration at King's College, London.

SHORT, ARTHUR RENDLE, M.D., B.S., B.Sc. Lond., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Bristol Royal Infirmary.

STACK, EDWARD HUGH EDWARDS, M.B., B.C. Cantab., F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Honorary Surgeon to the Bristol Royal Infirmary.

[illegible]

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100, with apartments, board, and laundry.

BARNSTAPLE [illegible] geon. Salary £100 per [illegible]

BEDFORD [illegible] ary £100 per annum,

BELGRAVE [illegible] S.W.—Junior Resident [illegible] annum, with board, re[illegible]

BERKSHIRE EDUCATION COMMITTEE.—Assistant Medical Inspector of Schools. Salary £300 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Two House Surgeons, Senior and Junior. Salaries £100 and £80 respectively, with board and laundry.

BIRKENHEAD UNION WORKHOUSE AND INFIRMARY.—Senior Resident *Assistant Medical Officer. Salary £130 per annum, with board,* apartments, &c.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Resident Medical Officer. Salary £150 per annum, with board, residence, &c.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House Surgeon. Salary £75 per annum, with board, rooms, and laundry allowance.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON, COUNTY BOROUGH OF.—Tuberculosis Officer. Salary £500 per annum.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £80 per annum, with board, residence, and laundry.

BRISTOL GENERAL HOSPITAL.—Honorary Physician or Surgeon to Throat and Nose Department.

BRISTOL ROYAL INFIRMARY.—Obstetric and Ophthalmic House Surgeon for six months. Salary at rate of £75 per annum, with [illegible]

[illegible] House Physician [illegible] apartments, [illegible]

CAIRO, SCHOOL OF MEDICINE.—Assistant to Professor of Biology and Parasitology. Salary £400 per annum.

CAMBRIDGE, COUNTY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, washing, and attendance.

[illegible] Officer, unmarried. [illegible] g, washing, and [illegible]

[illegible] Honorary Surgeon. [illegible] n-resident Medical [illegible]

[illegible] Gray's Inn-road.—Honorary Pathologist.

[illegible] t, S.W.—Second Assistant Officer. [illegible] board, washing, apartments, &c.

[illegible] HOSPITAL.—House Surgeon. Salary [illegible] washing, and residence.

[illegible]—Five Tuberculosis Medical Officers. [illegible]

[illegible] ident Medical Officer. Also Obstetric [illegible] e or six months. Salary £70 per annum.

EAS[illegible] edical Officer of [illegible]

FOU[illegible] AMMAR SCHOOLS. [illegible]

GRE[illegible] d, London, N.— [illegible] £40 per annum, with board, lodging, and laundry.

GUI[illegible]

HA[illegible] N.W., for six months. [illegible] board, residence, and laundry.

HEREFORD COUNTY AND CITY ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, washing, &c.

HUDDERSFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £60 per annum, [illegible]

KENSINGTON AND FULHAM [illegible] Resident Medical Office[illegible] board and laundry.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, &c.

LIVERPOOL STANLEY HOSPITAL.—*Resident Medical Officer.* Salary £150 per annum, [illegible]

MACCLESFIELD GENE[illegible] £100 per annum [illegible] Surgeon. Salary [illegible]

MANCHESTER, BAGUL[illegible] LOSIS.—Assistant [illegible] board and residence [illegible] coal, and gas.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

MARGATE, ROYAL SEA BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary at rate of £120 per annum, [illegible]

[illegible] —*Junior House Surgeon,* [illegible] e of £80 per annum, with [illegible]

[illegible] t, Bethnal Green, E.— [illegible]

MI[illegible]

NO[illegible]

PAR[illegible]

P[illegible] Medical Officer, [illegible] apartments, and washing.

PRESTON ROYAL INFIRMARY.—Senior House Surgeon, unmarried, for six months. Salary £80 per annum, with board, residence, and washing.

RHONDDA URBAN DISTRICT COUNCIL.—Medical Examiner of School [illegible]

ROC[illegible] arried. Salary [illegible]

ROT[illegible] lary £110 per [illegible]

ROY[illegible] W.C.—Assistant Surgeon.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.— [illegible]

[illegible] —Senior House [illegible] ith board and residence.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five appointments.

ST. BARTHOLOMEW'S HOSPITAL.—Physician. Also Physician- [illegible]

[illegible] —Second Assistant [illegible] board, residence, [illegible]

[illegible] RINARY DISEASES, [illegible] geon. [illegible] n. Also Casualty [illegible] of £65 per annum, [illegible]

SCARBOROUGH HOSP[illegible] *for six months.* [illegible]

SHEFFIELD, JESSOP [illegible] unmarried. Sal[illegible] laundry.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging, and washing.

Sheffield Royal Infirmary.—House Surgeon, unmarried. Salary £70 per annum, with board and residence.

Sheffield Union Hospital, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments and rations.

Shrewsbury, Salop Infirmary.—House Physician for six months. Salary at rate of £90 per annum, with board and apartments.

Southampton, Royal South Hants and Southampton Hospital.—Junior House Surgeon for six months. Salary at rate of £60 per annum, with rooms, board, and washing.

South Shields, Ingham Infirmary and South Shields and Westoe Dispensary.—Senior and Junior House Surgeons. Salaries £100 and £90 per annum respectively, with residence, board, and washing.

Stafford, Coton Hill Mental Hospital.—Assistant Medical Officer, unmarried. Salary £170 per annum, with residence, board, and laundry.

Surrey Education Committee.—Assistant Medical Officer. Salary £250 per annum.

Talgarth, Brecon and Radnor Asylum, Breconshire.—Assistant Medical Officer, unmarried. Salary £170 per annum, with quarters, board, attendance, and laundry.

Taunton, Somerset and Bath Asylum, Cotford.—Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, washing, attendance, &c.

Tiverton Hospital, Devon.—House Surgeon and Dispenser. Salary £80 per annum and all found.

Tunbridge Wells General Hospital.—House Physician, unmarried. Salary £100 per annum, with board, residence, &c.

Walsall and District Hospital.—Secretary. Salary £175 per annum.

Wandsworth Union Infirmary, St. John's Hill, near Clapham Junction.—Junior Assistant Medical Officer, unmarried, for six months. Salary at rate of £120 per annum, with board, lodging, and washing.

Warrington Infirmary and Dispensary.—Junior House Surgeon for six months. Salary at rate of £100 per annum, with apartments, [illegible] and laundry.

[illegible] County Asylum, Winwick.—Pathologist [illegible] Officer. Salary £200 per annum, with board, apartments, attendance, and washing.

West Riding of Yorkshire.—Assistant County Medical Officer. Salary £300 per annum.

West Sussex County Council.—County Medical Officer of Health. Salary £600 per annum.

Whitechapel Union Infirmary, Vallance-road, E.—Second Assistant Resident Medical Officer. Salary £100 per annum, with rations, apartments, and washing.

Wolverhampton and Staffordshire General Hospital.—House Surgeon. Salary £100 per annum, with board, rooms, and laundry.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Donaghmore, in the county of Down; at Sevenoaks, in the county of Kent; and at Stevenage, in the county of Herts.

New Addresses.

Buxton, Dudley W., M.D., 58, New Cavendish-street, W. Telephone: 4757 Mayfair.

Comerford, Beaumont H., M.D., 11, Chester-square, S.W.

Gaskell, J. F., M.D., 23, Ladbroke-grove, W. Telephone: 1989 Paddington.

Lee, H., M.B., F.R.C.S., 49, Queen Anne-street, W.

Nachbar, J., M.D., 1, Wimpole-street, W.

Owen, Rayley, M.R.C.S., The Yews, East Hagbourne, Didcot, Berks.

Roper, Richard S., F.R.C.S., Jesselton, British North Borneo.

Russ, Charles, M.B., 25, Beaumont-street, W.

Tuck, G. L. (Wu Lien Teh), M.D., Customs Buildings, Harbin, Manchuria.

A fee of 2s. 6d. is charged for the insertion of Notices of Change of Address, which must not exceed two lines.

Births, Marriages, and Deaths.

BIRTHS.

Brooks.—On Feb. 28th, at Old Court, Hanger Hill, to Dr. and Mrs. Ralph St. John Brooks, a daughter (Kathleen Marion St. John).

MARRIAGES.

Kennard—Hoffmann.—On Feb. 26th, Dudley Kennard, F.R.C.S., to Frieda, only child of Mr. and Mrs. Louis Hoffmann, of Brandfort, O.F.S., and London.

DEATHS.

Colvin-Smith.—On March 1st, at Cresswell-gardens, South Kensington, S.W., Sir C. Colvin-Smith, K.C.B., K.H.S., M.D., in his 84th year.

Henderson.—On Feb. 27th, at Barkston-gardens, S.W., Edward Henderson, M.D., aged 72 years.

Poignand.—On March 2nd, at a nursing home, Malcolm Poignand, M.D., of The Beeches, Walsham-le-Willows, Suffolk, in his 63rd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC HEALTH IN BRITISH GUIANA.

The health of this colony during the year, April, 1911, to March, 1912, was fairly satisfactory, there having been no outbreaks of plague, yellow fever, or small-pox, and the death-rate having been 31·7 per 1000, compared with 34·4 per 1000 in the previous year. The birth-rate was 27·5 per 1000. Malarial fevers are prevalent, but great improvement has been effected in recent years. In 1906–07 the cases treated in the estates hospitals numbered 33,748; in 1910–11 they were 21,063; in 1911–12 they had fallen to 15,169. This diminution has been due to the adoption of vigorous anti-malarial measures, the chief of which have been the abolition of mosquito breeding grounds and free distribution of quinine. Ankylostomiasis has been extremely prevalent on the sugar estates in the colony, and the introduction every year of a large number of infected East Indian immigrants renders the eradication of the disease a matter of great difficulty. The measures adopted are: (1) erection of latrines; (2) systematic examination of all newly arrived immigrants and of all persons suffering from anæmia or showing the least signs of being infected with the parasite; and (3) treatment and constant observation of all known infected cases. Dr. J. E. A. Ferguson, of the Peter's Hall medical district, states that in 1904 the great majority of the coolies harboured the parasite, their efficacy for work being very much impaired, women being rendered sterile by the accompanying anæmia, and deaths being frequent; by the use of 10 grains of thymol, either in a cachet or preferably coated with chocolate in a "pulverette," given nightly except on Saturdays, the ova gradually diminish in the dejecta, and after four months entirely disapper; no ill-effects whatever are produced. The same medical officer has been successful in combating malaria by the regular administration of quite small doses of quinine. A spleen census is taken, and to the coolies with normal spleens a weekly dose of 5 grains is given; to those with the spleen enlarged a similar dose is given daily, with an additional 5 grains if the enlargement is very great. This very simple treatment is said to have caused marked reduction in malaria, both in attacks and deaths. The birth- and death-rates on the Diamond Estates had averaged 29·7 and 24·7 per 1000 respectively for the years 1908–11; since the adoption of this treatment at Providence these ratios have been (1911–12) 35·3 and 16·9 respectively. The bacteriological department reports unfavourably on the use of nastin in the treatment of leprosy, but states that benzoyl chloride in petroleum oil is extremely valuable as a nasal spray or paint for ulcerating surfaces; it quickly renders the discharge free from bacilli. The report of the Surgeon-General, Dr. J. E. Godfrey, with accompanying subsidiary reports, states the present condition of medical matters in British Guiana; but as no ratios of disease prevalence or mortality are mentioned, and but few references made to previous statistical reports, it is not possible to compare the condition of this colony as regards its public health either with that of other colonies or with its own record in previous years or decennial periods. The interest and value of the report are therefore, we think, considerably diminished.

OLD AGE AND RECUPERATIVE POWER.

To the Editor of The Lancet.

Sir,—I think I can match Dr. W. Vernon Shaw's case published in The Lancet of Feb. 8th, p. 431. Some few years ago during one of the influenza epidemics I was called to see an old lady nearer 100 than 90. Her complaint took the form of bronchitis, and instead of trained nurses we had the kindly ministrations of her two daughters, middle-aged ladies. She said that she hated doctors and medicine. She read her daily paper and was very active mentally and otherwise. At the time I happened to have an accumulation of sample bottles of a medicinal wine. This was the only physic given. She was comatose for two whole days, her mouth was full of "thrush," and we were naturally waiting for the end. But she persisted in recovering. They eventually went to live at Ventnor, and a notice of her death, aged 102, appeared in The Lancet. Nowadays our old friend "Vis medicatrix Naturæ," I am afraid, is not so much trusted and relied upon as formerly.

I am, Sir, yours faithfully,

Crouch End, March 2nd, 1913. F. Orton, M.D. Dub.

THE ARMY AND NAVY MALE NURSES' COÖPERATION.

The fifth annual report of this association has been issued. The object of the association is to organise and utilise in civil employment the fully qualified male nurses who have received a costly training in the army and navy which is likely to be wasted on their leaving the service, since they often drift into unsuitable employment where their skilled training finds no market value. By their employment in civil life a double public need is subserved, for not only are these deserving men found employment in which their skilled training renders them of special value, at the same time providing for a constant public need, but their efficiency as reservists, who will be called out to serve their country again in the event of war, is not allowed to deteriorate in time of peace The Coöperation, of which Queen Alexandra is patroness and the Duke of Connaught patron, the president being Admiral Sir John Durnford, K C B (vice Sir Frederick Treves recently retired) and the chairman Sir Dyce Duckworth, maintains a residential home for the nurses at 11A Welbeck street, Cavendish square, thus assuring to the public that the nurses come direct from suitable surroundings and giving facilities for a personal interview with the nurse before engaging him The terms are moderate—2 guineas a week, 10s 6d a day or night of 12 hours, or 5s 6d an hour Applications for nurses should be made to the Secretary, 11A, Welbeck street, London, W

A QUESTION IN LUNACY CERTIFICATION

To the Editor of THE LANCET

SIR —A has a club patient who has been a subscriber of his for 14 years During the last three months he has shown symptoms of insanity, which became so pronounced that on Saturday, Feb 22nd, the relations were told by A to go to the relieving officer and to make arrangements with a magistrate living in the place, and that he A, would meet them at the patient s home on the Monday at whatever time was arranged Hearing on Sunday the relieving officer was from home, no arrangement was made with A Nothing further was heard by A either on Monday or Tuesday, so on Wednesday he visited the patient, and to his surprise found that he had been taken to the asylum on the Monday On further inquiry it transpired that the magistrate (a miner, who was also from home on business) could not be present, so the chairman of the urban district council, an *ex officio* J P (also a miner), was asked by the relieving officer s son (acting in his father s absence), who (i e , the J P) in turn asked *his* medical attendant, B a stranger to the patient, to examine the case with him B (who lives quite close to A) did so It is hardly necessary to say anything about B s etiquette, but has a magistrate any right to ignore a patient s own medical man in such a case ? The poor wife (poor in a double sense) was greatly annoyed, but told me she did not like to say anything Both B and the magistrate knew that the patient was A s A has not spoken to B about it as yet, as he desires to know his position first

I am, Sir, yours faithfully,

March 3rd, 1913 B A , M D

*** The Lunacy Act says nothing about the one medical certificate which is required in urgency orders being signed by the medical man in regular attendance Of the two medical certificates required with reception orders on petition, one must, whenever practicable, be signed by the practitioner in regular attendance, and it seems clearly desirable that where an urgency order is necessary the one certificate accompanying it should be that of the usual medical attendant The chairman of the urban district council in the case described apparently knew in whose medical care the patient was and in our opinion he should have made an effort to secure his attendance in the *patient s interest and as a matter of courtesy*, but we do not see that B could do otherwise than conform with the instructions of the magistrate —ED L

SOUTH AFRICAN SNAKES

FAR too little is known by the average practitioner in South Africa on the subject of the snakes commonly met with in that country Mr F W Fitzsimons, the curator of the Port Elizabeth Museum has recently revised his book, ' The Snakes of South Africa, and the results are to be found in the second edition, which has been published in Cape Town The book is intended primarily for laymen but it contains much that will appeal to the practitioner The addenda particularly are noteworthy, including as they do memoranda on experiments carried out in the Government laboratories Mr Fitzsimons writes in an entertaining style, and apart from the value of the work from the standpoint of natural history, which is considerable, he has succeeded in producing a book that should be useful to the medical profession

A PAMPHLET FOR INSURED PATIENTS

MEDICAL men on the insurance panels more particularly those in rural districts, would find very useful for distribution among their insured patients a little pamphlet on the National Insurance Act by Mr C Clark Burman, L R C P & S Edin , of Alnwick, Northumberland which describes in the most temperate reasonable, and convincing manner the responsibilities rights duties and privileges of insured persons and medical men under the Act It explains very clearly why the exercise of certain consideration for the medical man s time and convenience is so necessary showing that far more than the doctor s comfort, his professional efficiency, and consequently the welfare of his patients collectively and individually, is dependent on the exercise of such consideration and forbearance No price is mentioned, but the paper is published by J C Grant, the *Guardian* Office, 21, Bindgate Within Alnwick

COMMUNICATIONS not noticed in our present issue will receive attention in our next

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY —Mr A Mallock A Simple Method of Finding the Approximate Period of [illegible] ownsend and Mr H T Tizard [illegible] Gases — Prof T R Lyle On [illegible] Coils of [illegible] ium Fer [illegible]

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY

SPECIAL MEETING OF FELLOWS OF THE SOCIETY: at 5 P M

Discussion

On Alimentary Toxæmia its Sources, Consequences, and Treatment

Opening Addresses

Dr Hale White General Survey

Dr F W Andrewes The Bacteriology of the Alimentary Canal

Dr Vaughan Harley The Toxins of the Alimentary Canal

Dr Robert Saundby Consequences and Treatment from a Medical Point of View

Mr Arbuthnot Lane: Consequences and Treatment from a Surgical Point of View

Mr J F Colyer Consequences and Treatment from a Dental Point of View

The discussion will be re-opened by Mr J B Lawford on Monday, April 14th at 5 P M , and will be continued on successive Mondays for as long as may be necessary

TUESDAY

SECTION OF PSYCHIATRY (Hon Secretaries—R H. Cole, Bernard Hart) at 4 30 P M

Clinical and Pathological Meeting at Claybury Asylum

Cases

D [illegible]

L [illegible]

D [illegible] Decompression

Demonstrations

Dr F W Mott, F R S (1) Some Recent Investigations on the Bio-chemistry of the Neuron, (2) Spirochæta Pallida (Noguchi) in Culture (living), (3) Changes in Central Nervous System in a Case of Myxœdema, (4) Changes in Central Nervous System in Two Cases of Pellagra

SECTION OF SURGERY (Hon Secretaries—James Berry, J. Murray) at 5 30 P M

[illegible] n as a [illegible] with [illegible]

Mr. J Hutchinson The Symptoms produced by Aberrant Renal Arteries and a Clinical Study of the Indications and Results of Operation

WEDNESDAY

SECTION OF OPHTHALMOLOGY and SECTION OF NEUROLOGY at 8 P M } Combined Meeting

Discussion

On Disease of the Pituitary Body will be re-opened by Dr H. G. Turney and Dr Grunbaum

Specimens will be shown by Dr Grunbaum Dr William Hill, and others

THURSDAY

SECTION OF DERMATOLOGY (Hon Secretaries—Wilfrid Fox, J M H MacLeod) at 5 P M

Cases

Dr [illegible]

Dr [illegible]

Dr [illegible]

And other Cases

FRIDAY

CLINICAL SECTION (Hon Secretaries—C H Fagge W Essex Wynter) at 8 30 P M

Dr F Parkes Weber (1) Baggy Subcutaneous Fat Simulating Symmetrical Œdema of the Legs Disorder of Internal Secretions, (2) Hypoplasia of the Right Limbs of Cerebral Origin

Dr Essex Wynter Case of Multiple Large Baker s Cysts [illegible]

Dr [illegible] son Progressive Muscular [illegible] lar Dystrophies in Four [illegible]

Paper :

Dr A F Hertz "Bastedo s Sign"—a New Symptom of Chronic Appendicitis

Communications, Letters, &c., have been received from—

A.—Mr. J. Astier, Asnières; Ardath Tobacco Co., Lond.; Anglo-American Pharmaceutical Co., Croydon; Mr. J. E. Adams, Lond.; Dr. W. Broughton Alcock, Paris; A. T. M.; Mr. H. Brunton Angus, Newcastle-on-Tyne; Altruist, Alderney; American Medical [illegible]

B.[illegible] British [illegible] Lond.; [illegible] Sidney [illegible] Medical [illegible] Mr. C. S. Buck, St. Albans; Mr. Edmund C. Bevers, Oxford; Mr. Hubert H. Browne, Ipswich; Dr. W. Blair Bell, Liverpool; Mr. A. A. Bradburne, Southport; Dr. Charles A. Bucklin, Glasgow; Fleet-Surgeon P. W. Bassett-Smith, R.N., Lond.; Mr. J. Berry, Lond.; Messrs. J. Bell and Croyden, Lond.; Bootham Park Mental Hospital, York, Medical Superintendent of; Birmingham Corporation, *Clerk to the*; *Bristol* General Hospital, Secretary of; Mr. A. Barker, Lond.; Bristol Eye Hospital, Secretary of; Dr. J. B. Berkart, Lond.; Mr. F. O. Baird, Hove; British Fire Preventing Committee, Lond., Assistant Secretary of.

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Letters, each with enclosure, are also acknowledged from—

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R.[illegible] Li[illegible] Pa[illegible] E. [illegible] Dr[illegible]

S.—[illegible] Messrs. Spiers and Pond, Lond.; Mr. C. W. Scrimgeour, Dundee; Dr. J. A. Struthers, Liverpool; Dr. B. B. Sapwell, Aylesham; South Devon and East Cornwall Hospital, Plymouth, Secretary of; Miss E. T. Spurr, Lond.; Messrs. Smith and Sheppard, Dublin.

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Y.—Dr. M. Young, Chester.

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The Arris and Gale Lectures

ON

THE GENITAL FUNCTIONS OF THE DUCTLESS GLANDS IN THE FEMALE.

Delivered at the Royal College of Surgeons of England on March 10th and 12th, 1913,

By W. BLAIR BELL, B.S., M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond.,

GYNÆCOLOGICAL SURGEON TO OUT-PATIENTS, ROYAL INFIRMARY, LIVERPOOL; EXAMINER IN GYNÆCOLOGY AND OBSTETRICS TO THE ROYAL COLLEGES OF SURGEONS AND PHYSICIANS, LONDON; AND TO THE UNIVERSITY OF DURHAM.

LECTURE II.[1]

Delivered on March 12th.

Mr. President, Ladies, and Gentlemen,—In the last lecture I endeavoured to estimate the direct and indirect influences of the ovaries in regard to the genital functions. In considering the indirect influences I discussed the effects of ovarian insufficiency, both in physiological and pathological circumstances, on what I may perhaps describe as the rest of the genital system of ductless glands, and I also demonstrated the effects produced on the general metabolism by this condition. In this lecture I shall reverse the process, and endeavour to trace as far as possible in the time at my disposal the influence of the rest of the ductless glands upon [illegible]

[illegible] phile system may be considered similar in function to the medulla of the suprarenals, since their method of development and physiological properties are the same. We know too little of the coccygeal body to discuss it. The most recent investigators attach no importance to this structure as an organ of internal secretion. Nor shall I consider the internal secretion of the pancreas, for concerning this also we have no evidence of value in regard to the subject we have in hand. It is probable that every cell in the body is a ductless gland, and has some influence on the life and functions of the rest. But at present such a conception exists only as a dream in the minds of philosophical biochemists.

The two great generalised functions of all living tissues are: firstly, the coördinated development and life of the individual; and secondly, the reproduction of the next generation.

The aggregations of the specialised cells for the regulation of the body metabolism, which are known as the ductless glands, have long been identified as having an important bearing on the well-being of the individual—that is, on the growth of the body, on the coördination of his or her structures, and possibly on the maintenance of health by the production of antitoxic bodies. But it is only of recent years that these same groups of cells have been shown to possess most important special influences over that other great function of the living organism—the reproduction of the species in all its intricate necessities. Even now we have only hazy notions as to what these influences are, so that every fact and every observation, positive or negative, right or wrong, should be carefully recorded, in order that little by little the missing links in the chain of physiological interaction that connects all these organs together may be fitted into place.

The Relation of the Thyroid to the Genital System.

We shall, perhaps, be in a better position to consider the changes that occur in the rest of the genital system if we first discuss the effect on the general metabolism of removal of this organ.

Effects of Thyroidectomy on the General Metabolism.

Different mammals vary very much in their power of withstanding the disastrous results which may follow complete removal. I have never observed any grave effects supervene on the removal of the thyroid in rabbits. This has been explained on the ground that the parathyroids are relatively large, and lie well away from the thyroid itself, and consequently cannot be removed without a careful search; in other words, they escape removal during the operation of thyroidectomy. Swale Vincent and Jolly have shown that after thyroidectomy the parathyroids actually secrete colloid, and, in fact, perform the functions of the thyroid, just as they resemble it in structure, after this operation. But I do not believe that this question of the remaining parathyroids is the whole truth.

I think rodents have less need of the thyroid than other mammals such as the carnivora. It may be because the diet is different, but also I feel sure it is due in some measure to the variations in the structure and function (or degrees of function) seen in the other ductless glands. I have already alluded to the differences in structure between the ovaries of rodents and the higher mammals.

If, however, we take cats and remove their thyroids many die in a few days, usually with convulsions. In these cases it is probable that the immediate result is due to the removal of the whole thyroid apparatus (thyro-parathyroid). Some, however, survive the operation for a long period of time. In all these cases one can demonstrate the removal of the whole thyroid together with the internal parathyroids which are embedded in the two lobes of the thyroid. So that one gets in these animals the true effects of thyroid insufficiency. The number in which the metabolism was investigated fully was small, for, as already stated, many died too soon for the metabolism, as represented by the urinary excretion, to be estimated. The record of one non-pregnant cat which was destroyed two and a half months after operation has been selected as typical. (Table III., cat No. 9.) Other cases were complicated by the cats having had kittens shortly before operation, and in consequence did not appear to be suitable for averaging.

It will be seen that in this animal acetone was present three times in 20 estimations after operation.

The calcium excreted after operation was the same in quantity as before operation. There is a drop in the phosphorus excretion, in spite of the increase in the post-operation specific gravity; and the total nitrogen and urea are increased out of proportion to this rise in the specific gravity. It will be noticed, also, that the ammonia coefficient is slightly increased.

I am well aware from my experience in these matters that the records of one animal cannot carry much weight. But this was my only uncomplicated and reliable result out [illegible] l. [illegible] on the rest [illegible] rather important series of experiments in which thyroidectomy was performed on three pregnant cats which survived the operation for some time. They were carried out in order to observe the influence of the thyroid on the metabolism during pregnancy, especially with reference to the possible production of the symptoms of eclampsia with marked alterations in the ammonia coefficient. Further, I had in my mind the possibility that the secretion of the fœtal thyroids might reach the mother's circulation and mitigate the effects of the thyroidectomy performed on her.

The records of each case (Table IV., cats Nos. 2, 6, and 10) are drawn up to show the metabolism before operation, and in two cases after operation and before parturition. In one case the kittens were born alive at full term two days after the operation, before the estimations of the urinary metabolism had been resumed. It may be pointed out here that no estimations were carried out for a few days after any operation in order to avoid the effects of the anæsthetic.

It will be noticed that acetone, albumin, and sugar were found a good many times after operation in cat No. 2, and more frequently after parturition than before, without any real disturbance of the ammonia coefficient. Cat No. 10 gave birth ten days prematurely to stillborn kittens.

Turning to the averages (Table V.) we see that so long as the cats remained pregnant the calcium excretion remained constant, but that after parturition it was increased to treble the quantity. The phosphates after the birth of kittens showed a remarkable increase; and there is a considerable decrease in the urea excreted. There was, however, no disturbance of the ammonia coefficient.

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[1] Lecture I. was published in The Lancet of March 22nd, 1913, p. 809.

It does not appear probable, therefore, that the thyroid is in any way specifically connected with the production of eclampsia, as was originally suggested by Nicholson. It is true that two of our cats (Nos. 4 and 5) not included in the series, which were in the first half of pregnancy, died with convulsions in a few days, but the manner of death was similar in every respect to that seen in non-pregnant animals in similar circumstances.

The evidence of my experiments is in favour of the possibility that in the latter half of pregnancy the secretion of the fœtal thyroid may be conveyed to the mother.

We now come to the consideration of thyroidectomy on the rest of the genital system.

Effect of Thyroidectomy on the Ovaries and Uterus.

The normal ovary of the cat, with which animal we are concerned in these experiments, shows certain affinities for eosin in some of its elements. The zona pellucida, the liquor folliculi, the interstitial cells, and the cells of the corpora lutea all stain faintly with eosin. After thyroidectomy all these elements show an increased avidity for eosin. This is especially true of the zona pellucida and the liquor folliculi, and appears to be a matter of some importance.

It seems that removal of the thyroid calls for a response from the ovary, just as oöphorectomy did from the thyroid. And the nature of the response, if my observations be correct, is one of considerable interest, for it brings forward evidence that the granulosa cells of the Graafian follicle form an organ of internal secretion. But this secretion is not connected with the integrity of the uterus, for the effect of thyroidectomy on this organ is remarkable. The uterus atrophies to a considerable extent. Fig. 8 (which appeared in Lecture I., p. 815) represents the uterus of a normal cat, and Fig. 10 that of a cat after thyroidectomy. It will be observed that the uterus of the thyroidectomised cat shows very considerable muscular atrophy, quite as much as occurs after oöphorectomy. In this case the cat was pregnant when the thyroid was removed, the kittens were born two days later, and the animal died at the end of a month. The condition might, therefore, be described as one of superinvolution. But the same effect is obtained in the non-pregnant animal. The importance of this intense

TABLE III.—*Removal of Thyroid. Averages of Metabolism Estimations of 24 hours' Specimen Urines.*
Cat No. 9 (Non-pregnant).

Date.	Number of specimens examined.	Specific gravity.	Diacetic acid.	Acetone.	Albumin.	Sugar.	Indican.	Ca %.	Cl %.	P_2O_5 %.	Total N %.	Urea %.	NH_3 %.	Ammonia coefficient.		
														Urea N %.	NH_3N %.	Undet. N %.
Commenced 6/6/12	3	1040	0	0	0	0	Twice	0·0010	0·147	0·631	3·38	7·62	0·310	88·01	2·21	9·77
Operation 12/6/12																
Destroyed 30/8/12	20	1047	0	3 times	0	0	Once	0·0010	0·144	0·607	4·48	8·84	0·320	92·03	5·62	2·35

TABLE IV.—*Removal of Thyroid. Averages of Metabolism Estimations of 24 hours' Specimen Urines.*
Cat No. 2 (Pregnant).

Date.	Number of specimens examined.	Specific gravity.	Diacetic acid.	Acetone.	Albumin.	Sugar.	Indican.	Ca %.	Cl %.	P_2O_5 %.	Total N %.	Urea %.	NH_3 %.	Ammonia coefficient.		
														Urea N %.	NH_3N %.	Undet. N %.
Commenced 28/5/11	3	1031	0	0	0	0	0	—	0·035	0 261	2·93	6·04	0·151	94·56	4·16	1·28
Operation 31/5/11																
Had kittens 9/6/11	8	1009	0	4 times	5 times	7 times	0	0·0060	—	—	1·61	1·45	0·174	52·96	4·30	42·74
Destroyed 10/8/11	13	1040	0	12 times	4 times	9 times	6	0 0160	0·172	1·190	4·62	8·39	0·225	84·69	4·00	11·31
Cat No. 6 (Pregnant).																
Commenced 19/10/11	1	1044	0	0	0	Once	Once	0 0050	0·105	0·141	6· 7	11·72	0·280	84·50	4·09	11·41
Operation 21/10/11																
Had kittens 23/10/11																
Died 20/11/11	8	1027	0	0	0	Once	4 times	0·0110	0·165	0·318	2·63	5·24	0·130	92·89	4·04	3 07
Cat No. 10 (Pregnant).																
Commenced 16/6/12	3	—	0	0	0	0	Once	0·0010	0 210	0·357	2·55	4·59	0·416	78·92	12·57	8 51
Operation 19/6/12																
Had kittens 29/6/12	3	1028	0	0	0	0	Twice	0·0010	0·211	0·254	3·13	6·35	0·592	92·38	1·81	5·81
Destroyed 24/10/12	11	1044	0	Once	0	0	0	0·0015	0·148	0·729	3·42	6·26	0 304	85·35	6 95	7·70

TABLE V.—*Averages of Metabolism Estimations of 24 hours' Specimen Urines from Three Pregnant Cats Before and After Removal of Thyroid.*

—	Number of specimens examined.	Specific gravity.	Diacetic acid.	Acetone.	Albumin.	Sugar.	Indican.	Ca %.	Cl %.	P_2O_5 %.	Total N %.	Urea %.	NH_3 %.	Ammonia coefficient.		
														Urea N %.	NH_3N %.	Undet. N %.
Before operation	2 approx.	1037	0	0	0	Once	Twice	0·0030	0·116	0·253	4·00	7·45	0 232	85·99	6·94	7·06
After operation and before having kittens	5 approx.	1018	0	4 times	5 times	7 times	Twice	0·0030	0·211	0·254	2·37	3·90	0·383	72·67	3·05	24·27
After having kittens	11 approx.	1037	0	13 times	4 times	10 times	10 times	0·0095	0 161	0·745	3·55	6·63	0·219	87·64	4·99	7·02

atrophy will be considered directly; for before drawing our final conclusions of these results it will be advisable to consider the clinical observations that have been made in regard to insufficiency of the thyroid.

Clinical Observations on the Effect of Thyroid Insufficiency on the Genital Functions in Women.

These are quite well-known. We frequently see young girls with adiposity suffering from amenorrhœa; or we see the more marked insufficiency which produces myxodema, and is also invariably associated with suppression of the menstrual function.

Now both the minor and the major state of thyroid insufficiency are readily amenable to thyroid treatment, with one reservation—if the girl has suffered from thyroid insufficiency for some years past the period of puberty, and has never menstruated, then it may be impossible to relieve her genital condition, and the uterus may remain underdeveloped. If, on the other hand, the insufficiency has arisen later, after the subject has possessed full genital activity, then the uterus may, even after a long period of inactivity, resume its normal functions. I remember a lady who developed myxœdema and did not menstruate for some years. After a course of thyroid treatment she not only menstruated regularly but conceived.

Thus we have an explanation of the condition of the uterus sometimes observed in women with thyroid insufficiency. It is a condition of atropy such as is seen in wild animals during seasonal inactivity, and it is one which can be reawaked to full activity, like the physiologically inactive organ. Further, the full and increased activity—if my interpretation of the staining properties be correct—of the secretion of the membrana granulosa cells, with inactivity of the uterus, puts out of court the hypothesis that the cyclic changes in the uterus are due to this secretion. On the other hand, it is possible that the secretion of the interstitial cells is rendered insufficient in the absence of thyroid secretion. It is along these lines that I am endeavouring at the present time to solve the question of obtaining an active extract for therapeutic purposes in cases of ovarian insufficiency.

To complete the picture of thyroid insufficiency we must note the changes that appear constant in the suprarenals and pituitary in these circumstances. Later we shall have to consider these ductless glands more fully.

Effect of Thyroidectomy on the Suprarenals.

The normal suprarenal structure is well-known, but I shall refer to it briefly in order better to illustrate the changes that occur, physiologically and pathologically, in the cat. The suprarenal is divided into two parts, the cortex and the [illegible]

Abelous and his co-workers suggest that the cortex produces pro-adrenin; this is supported by Schäfer and Herring, and appears highly probable. In addition, the cortex has direct genital functions to be referred to later.

Now the changes that seem to indicate excessive activity of the suprarenals occur in the cortex; and they may be seen normally in pregnancy, and, so far as we know, in ordinary circumstances. The normal appearances differ, however, from those associated with the activity following thyroidectomy. In three of my animals an actual calcareous deposit was found in the zona fasciculata subsequently to thyroidectomy. I have not seen this condition in a normal suprarenal gland. I take it that what occurs is the production of fatty substances in quantities greater than can be immediately dealt with; then calcium soaps are formed, and finally calcareous deposits are produced, just as may occur elsewhere in the body after a similar series of chemical reactions. Evidently, then, thyroidectomy stimulates the suprarenal cortex to excessive secretion, and this no doubt tends to produce calcium retention and prevent excretion.

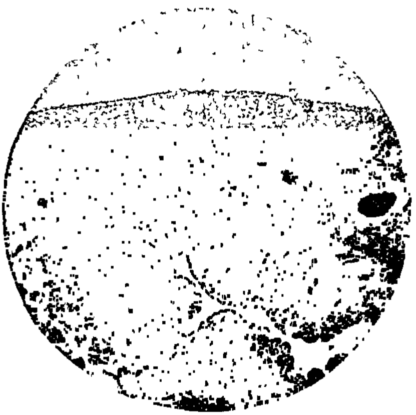
Effect of Thyroidectomy on the Pituitary.

That changes occur in the pituitary after thyroidectomy has long been known. Rogowitsch was the first to call attention to the fact. Herring states that the only change to be noted is an increase in the number of what he calls 'hyaline bodies' in the pars nervosa. These so-called 'hyaline bodies' are supposed to represent the secretion of the pars intermedia. But there can be no doubt that some—if not all—represent degenerated pars intermedia cells which have migrated into the pars nervosa. There the secretion, in my opinion, becomes converted into a pressor substance (infundibulin).

While it is, of course, quite certain, as Herring first observed and Cushing also noted, that this process does occur, I have found that it is not always so marked as we have been led to expect. Also in contradistinction to Herring, I have found definite changes in the anterior lobe. These were most marked in animals which were pregnant when thyroidectomy was performed.

The changes that occur seem to be an increase in active eosinophile cells at the expense of the large basophiles; and both in the pregnant and non-pregnant animal there is an increase of large active chromophobe cells, such as occurs normally in pregnancy. The latter are, of course, most pronounced in an animal in which thyroidectomy has been performed during pregnancy. The condition was well seen in cat No. 10 of my series. Ten days after operation two premature kittens were born. After a further interval of 120 days the animal was destroyed with chloroform. In this length of time all the chromophobe 'pregnancy' cells would have disappeared in the ordinary course of events. But as the result of thyroidectomy they not only persisted but showed an increase in secretory activity. The secretion appeared to form vacuoles among the cells. In this case the pars nervosa showed no abnormal invasion of pars intermedia cells. In the case of a non-pregnant cat (No. 9), killed 79 days after thyroidectomy, again many active chromophobe cells were to be seen in the pars anterior, and an increase in active eosinophile cells at the expense of the basophiles.

FIG. 10.



Uterus of cat one month after thyroidectomy. Atrophy of muscle coats. × 75.

We learn, then, from these observations that thyroidectomy causes an increase in the secretory activity of all parts of the pituitary body.

THE RELATION OF THE PINEAL TO THE GENITAL SYSTEM.

The pineal gland has never been successfully removed from mammals; and, owing to its inaccessible position in the brain, there seems to be little likelihood of experimental extirpation ever giving satisfactory results. The effects of castration on the pineal have already been mentioned.

The only other direct evidence available is that obtained clinically.

Clinical Effects of Pineal Disease on the Genital System.

Comparatively few observations have been made, but in most cases where a tumour has been observed it has been a teratoma, and somewhat remarkable symptoms have been seen. When the patient was a child, as was usually the case, there was a precocious development of the skeletal structures, and also of the genital organs. According to L. Kidd, who has recently reviewed the literature of the pineal body; all the cases recorded occurred in boys. In a few instances obesity has been seen, but apparently unaccompanied by genital atrophy.

Biedl thinks that the sexual precocity is due to insufficiency of the pineal body, and that the normal pineal secretion restrains the development of the genital organs. There is no reliable evidence in support of the latter statement.

The Relation of the Pituitary to the Genital System.

Some of the normal physiological changes in the pituitary which occur are well known. But there is much need for a systematic investigation into the age changes in this organ. So far as I know only a few isolated observations have been recorded.

There is reason to believe that the secretions of the pituitary determine many of the metabolic functions necessary for the establishment of puberty or sexual maturity.

We fully recognise the remarkable enlargement and the histological changes that occur in this gland as the result of pregnancy. The eosinophilia disappears and a large portion of the cells of the pars anterior become chromophobe, and, as already mentioned, have been called 'pregnancy cells.' No doubt this change is brought about by the needs of the maternal metabolism which the development of the fœtus entails. The changes seen in the pituitary during pregnancy cannot be produced to the same extent experimentally.

A few years ago Dale, and Hick and I, showed that an extract of the posterior lobe produces powerful uterine contractions. This effect may be produced physiologically in labour by the infundibular extract.

Ott and Scott first showed that the same extract is a galactagogue. It is not known how this result is produced; but most of the evidence goes to show that it is an expressor effect. It would be interesting if it were a fact, of which we have no proof, that the pituitary normally promotes the secretion of milk. It is, however, in my opinion certain that after the birth of the child the stream of metabolic products directed to its maintenance and growth in the womb are diverted to the mammary secretion, which is to supply its post-natal necessities.

I will now shortly recapitulate the work of others in regard to extirpation of the pituitary, partial or complete, in so far as it is of importance to our subject. At the same time it is necessary to state that none of the experimental work fulfils the highest ideals owing to the inaccessibility of this organ; consequently, the last word has not been said in regard to the results that may be obtained.

Effects of Removal of the Pituitary (Partial or Complete).

Most of the early work on the extirpation of the pituitary was absolutely unreliable, and it was not until Paulesco improved the technique, which Harvey Cushing and Biedl subsequently adopted, that results worthy of consideration were obtained.

Cushing's conclusions may be summed up as follows: Complete extirpation caused death in a short time. The same effect was obtained by complete extirpation of the pars anterior. Partial removal of the anterior lobe led to the condition known as dystrophia adiposo-genitalis—that is to say, there was great obesity, with atrophy of the genital organs and undergrowth in young animals.

Biedl confirmed these findings, and also stated that the posterior lobe (pars intermedia and pars nervosa) might be removed without producing symptoms.

It is difficult to believe in the results of experiments in which the anterior or posterior lobe are said to have been removed separately. But there can be no doubt that partial removal of the anterior lobe is not difficult to accomplish; and the results following this procedure should be reliable.

It is the effect of dystrophia adiposo-genitalis which is particularly interesting to our present study. And it is to be noted that Cushing in his recent work, if I understand him correctly, puts forward views diametrically opposed to the results obtained in the experiments which were previously published by him. He now attributes the symptoms mentioned to insufficiency of the posterior lobe. Thus the confusion that has so long existed becomes "confusion worse confounded," and, as already stated, can in my opinion only be dispelled by considering the whole pituitary as one organ.

Effects of Removal of the Pars Anterior on the Ovaries and Uterus.

There appears to be no doubt that the ovaries undergo hypoplasic changes after partial removal of the anterior lobe. There is no good description of the histological appearances, but Cushing states that the follicles disappear while the interstitial cells persist. The uterus also undergoes atrophy. I have had no opportunity of examining ovaries after this operation, but since the uterus atrophies one would have expected to find the same changes as those which follow thyroidectomy—that is to say, the reverse of what has been found by Cushing.

Effect of Removal of the Pars Anterior on the Thyroid.

It has been noted by Cushing and others that there is a remarkable degree of hyperplasia in the thyroid after partial removal of the anterior lobe. This condition is said to subside eventually, and be superseded by a considerable colloid formation, with apparent disappearance of epithelial activity.

Effect of Removal of the Pars Anterior on the Thymus.

This leads to hypertrophy of the thymus just as the condition of hypopituitarism is often associated with thymus enlargement.

Effect of Removal of the Pars Anterior on the Suprarenals.

The operation, according to Cushing, is followed by hyperplasia and lipoid vacuolation of the cells of the zona fasciculata.

Clinical Observations of the Effect of Pituitary Insufficiency on the Genital Functions in Women.

These have been made chiefly in regard to acromegaly and the condition already described as dystrophia adiposo-genitalis. The former disease is supposed to be due to excess of secretion and the latter to deficiency. The relationship of these two conditions, however, is not quite so simple as the above statement would seem to imply.

It is usual to find amenorrhœa both with acromegaly and with the condition which is supposed to represent the opposite, in regard to secretory activity.

With acromegaly the excessive thickening of bones indicates calcium retention—a condition which appears associated with masculinity, as we shall see when dealing with the suprarenals. Not long ago I saw with Dr. Amand Routh a patient with acromegaly who developed a deep voice, and had a very considerable hypertrophy of the clitoris. Some might be inclined to attribute this to suprarenal involvement in a polyglandular syndrome. According to Cushing, however, hyperpituitarism (acromegaly) is often associated with low blood pressure, asthenia, and pigmentation, which indicate suprarenal insufficiency, and not the reverse. Indeed, I have seen a case of acromegaly which presented all the symptoms of Addison's disease.

In view of these facts we must look upon acromegaly as a condition which produces masculinity and consequently amenorrhœa.

In cases of dystrophia adiposo-genitalis genital atrophy is invariable, yet there is no doubt that if the individual has had functional activity before the onset of the disease this activity may return on relief of the condition by decompression or by the administration of pituitary extract. I have myself observed this result follow injections of anterior lobe extract in dystrophia adiposo-genitalis. Similarly I have seen good results after the administration of this preparation in cases in which the patient was very obese and suffered from amenorrhœa, without showing the signs of intracranial pressure, which are usual when the condition has reached the stage of dystrophia adiposo-genitalis.

Success is the more likely when the patient has had some functional activity previously; but it is possible that delayed menstruation with obesity might be successfully treated if the patient has not long passed the usual age of puberty.

The Relation of the Thymus Gland to the Genital System.

The thymus has been shown to have a very important relation to the development of the individual and of her reproductive functions. It is probable that once the genital functions are established the thymus rapidly undergoes atrophy, and plays no further part in the metabolism of reproduction. We have already seen that the thymus undergoes hyperplasia after removal of the ovaries.

Effects of Thymectomy on the Ovaries and on the Calcium Metabolism

Paton found that if the operation be performed before puberty there is a rapid development of the genital gland It appears, therefore, as if the thymus either inhibits the development of the ovaries (Biedl) or that their development follows the withdrawal of the thymus secretion

It is highly probable that the thymus is intimately connected with the calcium metabolism, but it can hardly be as Biedl suggests, that the effect of its secretion is to cause calcium retention in the bones—although several investigators (Basch, Cozzolino Tarulli and Lo Monaco) have found that rickets follows thymectomy in young animals, an effect not confirmed by Paton—for the skeletal structures become much more heavily laden with calcium phosphate after puberty when the gland atrophies

The matter is one of considerable difficulty But if thymectomy leads to increased calcium excretion and bone softening the growth of the genital gland which promotes the excretion of calcium would not tend to improve matters unless—and this is possible—the development of the genital gland causes an increased secretion from the suprarenals which leads to calcium retention

Effects of Thymectomy on the Other Ductless Glands

No reliable work appears to have been done on these lines It is urgently needed in order to clear up many of the difficulties concerning the relation of the thymus to the general metabolism

THE RELATION OF THE SUPRARENALS TO THE GENITAL SYSTEM

These glands may be studied in the same way that we have already adopted—that is from a physiological and pathological standpoint

In pregnancy certain changes occur normally in the suprarenals So far as my own observations go these are confined to the cortex The cells of the zona fasciculata appear swollen and cloudy Some observers (Guieysse and Gottschau) have found that in pregnancy the zona fasciculata increases in thickness at the expense of the zona reticularis and medulla My own observations are in accord with this The zona reticularis does not increase at the expense of the zona fasciculata in pregnancy, as it does after oöphorectomy

Conflicting views as to the effects of castration have been put forward by Schenk, Cecca and others A source of error in the estimation of the thickness of the various zones is liable to arise unless care be taken to cut mesial sections, or, better still, serial sections

Effects of the Removal of the Suprarenals

In most mammals complete removal of the suprarenals causes death in from a few hours to a few days The animal does not eat, it sits very quietly gradually becomes weaker tremors occur, and death supervenes This course of events occurs so rapidly that as a rule no estimation can be made of the metabolism and any changes observable in other ductless glands must be of an acute character and of less value from a practical point of view than those which are obtained by the production of chronic insufficiency a condition difficult to bring about experimentally Acute results may, however be useful as indicating the trend of events

Many rats, owing to the fact that a large percentage of them have accessory interrenals consisting of cortical substance, are said to be able to survive extirpation of the main organs I have had no experience of extirpation experiments on these animals My investigations have been carried out on rabbits and cats Those animals from which both suprarenals were removed either at one or at two sittings died within 48 hours I tried therefore the effect of the removal of one suprarenal in the hope of being able to produce insufficiency, since we know the other suprarenal hypertrophies in these circumstances and shows a condition somewhat comparable with the hyperplasia of pregnancy Two cats gave negative results in regard to the metabolism but with two rabbits I obtained definite results One of the animals was destroyed at the end of 30 days as it was obviously dying It was much emaciated, its weight having dropped from 2000 grammes to 1400 grammes The post mortem notes run as follows "No cause of death found The site of the previous operation unrecognisable except for the absence of the gland "

The other rabbit died at the end of 127 days It also was greatly emaciated the weight having decreased from 1710 grammes to 1020 grammes At first the animal gained weight after the operation and then it steadily lost ground. No cause for death was found

These results are apparently of some value for according to most recent authorities unilateral extirpation in rabbits produces no symptoms

With regard to the metabolism we obtained very interesting records In each case a considerable increase in the excretion of calcium was observed (Table VI) In one case

TABLE VI —*Removal of Left Suprarenal Averages of Metabolism Estimations of 24 hours Specimen Urines*

Rabbit No 2

Date.	Number of specimens examined	Specific gravity	Diacetic acid	Acetone	Albumin	Sugar	Indican	Ca %	Cl %	P_2O_5 %	Total N %	Urea %	NH_3 %	Ammonia coefficient Urea N %	 NH_3 N %	 Undet N %
Commenced 23/8/12 Operation 28/8/12 Destroyed 27/9/12	4 13	1023 1026	0 0	0 0	0 0	0 0	0 0	0·0030 0·0210	0·170 0·192	0·206 0·623	1·16 1·58	2·25 3·09	0·070 0·036	87·78 91·26	3·69 1·86	8·53 6·88
Rabbit No 4																
Commenced 30/8/12 Operation 4/9/12 Died 9/1/13	2 33	1018 1030	0 0	0 0	0 0	0 0	0 4 times	0·0017 0·0280	0·152 0·268	0·200 0·531	0·64 1·59	1·12 2·93	0·227 0·045	80·69 85·84	3·27 2·32	16·04 11·84

TABLE VII —*Averages of Metabolism Estimations of 24 hours Specimen Urines from Two Rabbits Before and After Removal of Suprarenals*

—	Number of specimens examined	Specific gravity	Diacetic acid	Acetone	Albumin	Sugar	Indican	Ca %	Cl %	P_2O_5 %	Total N %	Urea %	NH_3 %	Ammonia coefficient Urea N %	 NH_3 N %	 Undet N %
Before operation	3	1020	0	0	0	0	0	0·0023	0·161	0·203	0·90	1·68	0·148	84·23	3·48	12 8
After operation	23	1028	0	0	0	0	4 times	0·0240	0·230	0·577	1·58	3·01	0·040	88·55	2·09	9·3

the average quantity excreted after operation was seven times as much as that excreted before operation. In the other case it was sixteen times as much. The average for the two cases was, of course, between these figures (Table VII.).

The excretion of phosphorus was much increased but not in the proportion one might have expected.

The urea excretion was increased out of proportion to the differences between the specific gravities before and after operation.

Now this increase of the calcium excretion is of very considerable interest, and I much regret not having a longer series of cases. It is well known that the view has been advanced that osteomalacia is due to insufficiency of suprarenal secretion, and Bossi first called attention to the beneficial results to be obtained by the injection of adrenin in these cases. I have not met with a case of osteomalacia in recent years, so I have had no experience of this treatment. But these experiments give very strong support to this view of Bossi, not only in the metabolism results, but in a most striking way in regard to the bones of one of these animals.

The bones of the forelegs—on which I presume a good deal of weight would fall—were found to be markedly bent. Fig. 11 shows the normal condition of the bones of the forelegs. Fig. 12 is a radiogram of the condition found in one of the rabbits. The bones of the back legs, which are thicker, were only slightly curved. But owing to the manner a rabbit sits very little weight would fall on these bones. I regret that a radiogram was not taken before operation, but I hardly think such curving could have escaped notice during the handling of the animal at an operation. And the boy who has charge of my animals, and, in fact, discovered the condition, is quite certain it followed the operation, and I can hardly understand how it could have been otherwise. It is to be remarked that it was in this animal that the largest quantities of calcium were excreted. This is, however, such an important case that I feel constrained to play the part of the devil's advocate in regard to it.

The bones of these animals were chemically examined and compared with the bones of normal animals, but I do not include the records here, as we have been unable to conceive any satisfactory way of interpreting the results. Bones deficient in calcium weigh lighter than bones that are rich in it. So that if we take a gramme of osteomalacia bone and estimate the quantity of calcium we would find much the same quantity as in the same weight normal bone. Again, the percentages of the constituents vary normally to a considerable extent according to the age of the animal and other factors.

Effects of Suprarenal Removal upon the Pituitary Body.

The changes that occur seem to be much the same whether the insufficiency be acute or chronic; thus in cat No. 1 of my series of suprarenal removals the glands from both sides were removed at the same time. There was an interval of 36 hours between operation and death.

The cells of the pars anterior show a marked degree of chromophobia with a moderate degree of faint eosinophilia. In many places the nuclei are very deeply stained with hæmatoxylin.

In the pars intermedia the cells are discrete—that is to say, they are not fused—and show no special activity; the nuclei stand out prominently.

The pars nervosa is freely invaded by the cells of the pars intermedia, but the nuclei only are prominent, as though they were left stranded after the disappearance of the cell cytoplasm.

Exactly similar changes were noted in rabbit No. 2, which showed such marked symptoms of suprarenal insufficiency, as already recorded. The anterior lobe showed very well the chromophobe cells, and the faint blurred character of the eosinophile staining.

Taking all the facts into consideration I hardly think we can come to any conclusion other than that the anterior lobe shows greatly increased activity. The pars intermedia is apparently not in an actively secreting condition, but the extensive invasion of the pars nervosa by pars intermedia cells and the immediate disappearance of the cell cytoplasm appears to indicate that an attempt is being made to counterbalance the loss of adrenin by the rapid production of infundibulin.

Effect of Removal of the Suprarenals upon the Thyroid.

I have been unable to trace any histological change either in acute or chronic suprarenal insufficiency.

Effects of Removal of Suprarenals on the Ovaries and Uterus.

There appears to be no histological change of importance in the ovary, but it is worthy of note that the normal eosinophilia of the zona pellucida is not decreased, rather if anything is it increased. After removal of one suprarenal, if insufficiency be produced, the uterus appears to undergo changes comparable with those that are seen after thyroidectomy, but the muscular atrophy appears to be less in extent; probably this is due to the state of incomplete insufficiency (Fig. 13).

Clinical Observations of the Effect of Pathological Lesions of the Suprarenals on the Genital System.

We meet with conditions in the human subject which represent both an under-secretion and an over-secretion of the suprarenals. This is decided on clinical and histological evidence. At the same time we are still in the dark as to the exact relationship of the cortex to the medulla.

In Addison's disease we have what are apparently the symptoms of insufficiency of medullary secretion, as is shown by the low blood pressure and general muscular weakness. But in this disease the cortex also is destroyed.

It is doubtful if sufficient pathological observations have been made with a view of observing changes in the ovary and uterus to enable us to give any definite statements regarding them.

Amenorrhœa is, I believe, usually associated with Addison's disease, but this may be due solely to the effects of a condition which produces general progressive enfeeblement. On the other hand, our experimental evidence indicates that atrophy of the uterus presumably with insufficiency of the function of the interstitial cells occurs in these circumstances.

The other pathological lesions which have been subjected to a good deal of attention lately are hyperplasia and tumour formation in the suprarenal cortex. For some years these lesions have been known to be associated with extraordinary changes in the primary and secondary sex characteristics. Attention was first called to these interesting phenomena by Woolley, Bulloch and Sequeira, and Neugebauer.

Last year my colleague Professor Ernest Glynn reviewed exhaustively the whole subject, and added five fresh cases in children to those already collected by Bulloch. Out of 17 cases in children, 14 were females. In these there were usually skeletal overgrowth, hair on the face and pubes, and sometimes hypertrophy of the clitoris. Further, Glynn collected six cases occurring in young adult females, in all of whom there was growth of hair on the face, shrinkage of the breasts, amenorrhœa, and sometimes a masculine voice. Pathologically, the suprarenal enlargement in the children and young adult females was unilateral and neoplastic in character, and directly or indirectly caused death. Metastases were sometimes found.

In a second group of cases there were 13 pseudohermaphrodites, 12 being females, and in these the suprarenal enlargement was bilateral, hyperplastic in nature, and there were no metastases.

Glynn suggested that in these cases hyperplasia of the suprarenal cortex occurred in fœtal life before the differentiation of the genital ducts, and led to the persistence of the Wolffian derivatives, thus causing female pseudohermaphroditism.

No sex changes are associated with tumours of the suprarenal cortex when they occur in adult males or in women after the menopause.

This body of pathological evidence is of great value, and it shows how closely the adrenal cortex, which is developed from the mesothelium of the Wolffian ridge adjacent to the germinal area, is connected with sex characteristics. How far the influence of the suprarenal cortex acts in conjunction with the sex gland is not known. Probably there is some correlation between them in normal circumstances.

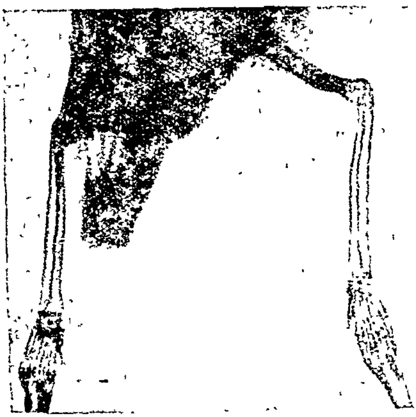
I now come to the last and, in some ways, the most difficult part of my task.

THE CORRELATION OF THE INTERNAL SECRETIONS IN REGARD TO THEIR GENITAL FUNCTIONS.

I have endeavoured to trace, for the most part from my own observations, the disjointed facts concerning the influences exerted by the different membe[illegible] upon one another and on the [illegible] as the genital system is conc[illegible] sometimes shown clearly the nature of the associations between the different organs.

But it is absolutely impossible at the present time to correlate fully all their functions, so that perhaps the less said now the less there will be to withdraw at some future date. In view, however, of what I said at the commencement as to the necessity for a lead in this intricate matter, I cannot refrain from enunciating what I believe to be the general principles. I shall not have time further to analyse the details.

FIG. 11.

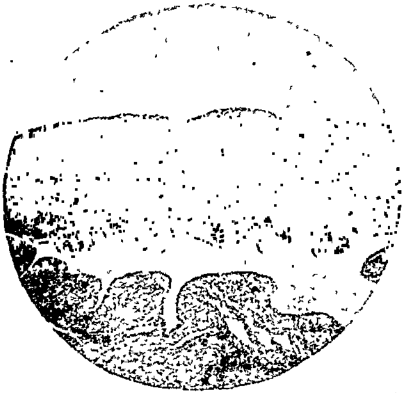


X ray photograph of the bones of the forelegs of a normal rabbit. ½.

It appears, from the evidence at our disposal, that in spite of great [illegible] ductless glands in [illegible] *It* is the same in [illegible] The variations in function that depend on the differences of structure are probably related to differences in the food and habits of life.

In adapting our knowledge to the requirements of human physiology and pathology we must take into account *both* the essential functions I have already referred to—the individual metabolism of the mother, and the metabolism of her reproductive functions—for they are completely interdependent.

FIG. 13.

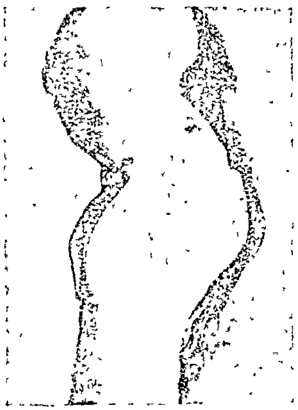


Uterus of a rabbit after unilateral suprarenal removal. Moderate degree of muscular atrophy. × 75.

We have seen as the result of our studies that the ovaries, on the one hand, have as their share of these dual functions the onus of ensuring the reproduction of the species, by furnishing the ova, and by keeping active the rest of the genital structures and functions And, further, the secretions of the ovary are *concerned* in keeping the other members of the ductless gland *system* in touch with the [illegible] importance, and is one which explains much that would otherwise be obscure.

When the reproductive functions cease and the ovaries atrophy at the menopause the harmony that previously existed between the general and the genital metabolism is temporarily deranged, and various disturbances may *ensue*. *And it is only* by the careful investigation of each menopausal case that one can arrive at a determination of the manner *in* which the balance has been upset. It is impossible always to alleviate the symptoms, *but the basis of* treatment rests on the regulation of the existing disarrangement by the administration of the necessary secretions. Some patients react to thyroid extract, some to pituitary, others, again, to combinations, so great are the individual variations. In most cases a natural readjustment takes place in the course of time.

FIG. 12.



X ray photograph of the bones of the forelegs of a rabbit after unilateral suprarenal removal. ½.

So that, strictly speaking, the ovary is only concerned in [illegible] the ovary has been supposed to be responsible for the beauty of the vessel by means of which its ends are to be attained. But to-day we are beginning to wonder how far the ovary does influence secondary sex characteristics, and whether full individual secondary characteristics can be obtained by the influence of the ovary alone.

We have evidence that hyperplasia of the suprarenal cortex can upset any influence the female genital gland may be supposed to possess, and can produce in a female some of the secondary characteristics of the male, and even partially change the genitalia to complete the picture.

I well remember seeing a case under the care of Dr. Russell Andrews. The subject possessed every female characteristic except for the absence of uterus, Fallopian tubes, and ovaries; instead there were testes within the abdominal cavity. This individual was a male pseudo-hermaphrodite with the pure secondary characteristics of a female, and a prepossessing one at that. Such a condition could not have existed with hyperplasia of the suprarenal *cortex*; indeed, it is probable there was hypoplasia.

Any influence the ovary has over the general metabolism is, then, related to and dependent on its primary reproductive function. I do not believe that it influences the metabolism except in so far as this special function is concerned. Of course, removal of the ovaries may produce a temporary disturbance, but this has already been explained, and does not invalidate the view just mentioned.

On the other hand, the rest of the ductless gland system is related to the genital functions in various ways. Firstly, some of the members—the thyroid, pituitary, and suprarenals—influence the development and subsequently preserve the integrity and activity of the genitalia, as I have already demonstrated. Others—the thymus, and possibly the pineal—appear to prevent sexual precocity. Secondly, all the ductless glands control the metabolism in response to the necessities of the genital functions. But, in addition, they adapt the whole organism to the possibility of the situation, and regulate the secondary characteristics, both physical and psychical, to suit the needs of the individual. Once, however, the reproductive organs are removed or undergo atrophy, the primary genital functions of the rest of the ductless glands cease, and the rearrangement of the metabolism that follows produces what are known as the symptoms of the menopause. Contrariwise, insufficiency of the thyroid, pituitary, or suprarenals causes the cessation of the genital functions with atrophy of the uterus.

As to the more particular parts played in the metabolism by each member of the ductless gland system, these have already been specified.

In spite, therefore, of the reluctance to correlate our knowledge shown by most investigators the matter is not one of very great complexity if my views be correct in a general way, although there remains much detail to fill in.

As soon as possible we must come to a conclusion as to what are the facts; so much work that has been done is contradictory. There is, therefore, so much more the need for further efforts.

In concluding, I would again insist that in order to solve completely the problems surrounding the genital functions, we must focus at one and the same time the two essential processes of life—the individual metabolism and the reproductive metabolism. They are absolutely interdependent. Indeed, the individual metabolism is the reproductive metabolism. It is the neglect of this point of view that has brought about much of the confusion that exists.

Weismann and Ray Lankester describe the relation between the reproductive cells and those of the soma in still more striking terms. The latter says: "Among the multicellular animals, certain cells are separated from the rest of the constituent units of the body, as egg-cells and sperm-cells; these conjugate and continue to live, whilst the remaining cells, the mere carriers as it were of the immortal reproductive cells, die and disintegrate. The bodies of the higher animals which die may from this point of view be regarded as something temporary and non-essential, destined merely to carry for a time, to nurse and to nourish the more important and deathless fission products of the unicellular egg."

Whatever views we may hold as to details I question whether this philosophical statement is open to contradiction. The function of reproduction in all its preparations and performances commences in the early stages of segmentation, and may be said to continue in man until the care of the offspring is completed. In many insects, male and female, the act of reproduction is also the cause of death.

Evolution and the pressing necessities of individual life have led men to look upon the function of reproduction as of vastly inferior importance to their own individual metabolism. No doubt women will soon come to think so too, for they seem to be changing. Whether this change be due to an increasing hyperplasia of the female suprarenal cortex I do not know. But just as we are beginning to think that our knowledge of their special functions is becoming well defined they invite us to follow their further evolution, which apparently they think will not involve them in the joys of motherhood.

Helmont said: "Propter *solum uterum* mulier est quod est." Chévau changed this to "Propter *ovarium solum* mulier est quod est." Virchow reiterated this statement and, according to Biedl, added that "all the peculiarities of her body and mind ...... everything, in fact, which in the true woman we admire and revere as womanly, is dependent on the ovary."

In the light of our present knowledge I venture to think that the following aphorism most accurately represents the cause and effect: "Propter *secretiones internas totas* mulier est quod est."

The original work detailed in these lectures, which were illustrated with many photomicrographs and colour photomicrographs, was carried out in the Bio-chemical and Pathological Laboratories in the University of Liverpool; and I am much indebted to Professor Benjamin Moore and Professor Ernest Glynn for help in various directions, and especially for the facilities accorded to my assistants, and for the superintendence of their work.

The entire expenses were defrayed out of the J. Arthur Smith Research Fund.

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FOREIGN UNIVERSITY INTELLIGENCE.—

Boston (Harvard): Dr. A. Lugard, assistant in the University Medical Clinic, Vienna, has been offered a Professorship of Radiology.—*Cologne:* Dr. Eduard Meder, *docent* of social medicine, has been granted the title of Professor.—*Erlangen:* Dr. W. Lobenhoffer has been recognised as *privat-docent* of Surgery.—*Freiburg:* Dr. Nöggerath, of Berlin, has been offered the chair of Children's Diseases, in succession to Dr. Salge, and Dr. J. Oehler has been recognised as *privat-docent* of Surgery.—*Giessen:* Dr. W. Sulze has been recognised as *privat-docent* of Physiology.—*Göttingen:* Dr. Curt Oehme has been recognised as *privat-docent* of Medicine, and Dr. Dr. Ulrich Ebbecke as *privat-docent* of Physiology.—*Heidelberg:* Dr. Karl Beck has been recognised as *privat-docent* of Laryngology and Otology, and Dr. Hans W. Gruhle as *privat-docent* of Psychology.—*Königsberg:* Dr. Henke has been recognised as *privat-docent* of Laryngology and Rhinology.—*Leipsic:* Dr. Thiemich, of Magdeburg, has been appointed to the chair of Pædiatry, in succession to the late Dr. Soltmann, and Dr. Bernhard Schweitzer has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Marburg:* Dr. Kleinschmidt has been recognised as *privat-docent* of Children's Diseases, and Dr. Friedrich Kierstein as *privat-docent* of Gynæcology.—*Munich:* Dr. Alwin Ach has been recognised as *privat-docent* of Surgery, Dr. G. Böhm as *privat-docent* of Medicine, and Dr. Hans Ahrens as *privat-docent* of Odontology.—*Rome:* Dr. Sebastino Gussio has been recognised as *privat-docent* of External Pathology, and Dr. Ernesto Tramonti as *privat-docent* of Neurology.—*Sienna:* Dr. Amilcare Bietti has been promoted to Extraordinary Professor of Ophthalmology.—*Strasburg:* Dr. Karl Pfersdorff, *privat-docent* of psychology, Dr. Julius Baer, *privat-docent* of medicine, and Dr. Walter Berg, *privat-docent* of anatomy, have been granted the title of Professor.—*Zürich:* Dr. Max Tièche has been recognised as *privat-docent* of Dermatology and Venereal Diseases.

The Lumleian Lectures

ON

INTRATHORACIC ANEURYSM.

Delivered before the Royal College of Physicians of London on March 6th, 11th, and 13th, 1913,

BY F. DE HAVILLAND HALL, M.D. LOND., F.R.C.P. LOND.,

CONSULTING PHYSICIAN TO THE WESTMINSTER HOSPITAL.

LECTURE III.*

Delivered on March 13th.

MR. PRESIDENT, FELLOWS AND GENTLEMEN,—The *prognosis* in intrathoracic aneurysm must always be a most anxious one. I would hardly like to say that a complete cure is impossible, but with one or two doubtful exceptions—I say doubtful, because the cases were observed before the X ray method of examination was introduced—I have not seen a case which I could consider a permanent cure.

Treatment by rest and other measures will usually remove pain and other unpleasant symptoms, and cause a great modification in the physical signs; but, as is often shown by the post-mortem examination, while the original aneurysm has become consolidated, another aneurysm has developed, and this, which frequently escapes recognition, may be the cause of death. As might have been expected, an aneurysm progresses less quickly in people who can lead a quiet life and who are of a placid disposition. It has been stated that aneurysms run a more rapid course in women than in men, but I have not been able to verify this statement. The presence of aortic regurgitation is a very unfavourable sign, as is also advanced degeneration of the blood-vessels.

To show the frequency of sudden death in aneurysm I may quote Dr. Kelynack's statistics; out of 32 cases of rupture reported by him six were observed in medico-legal investigations, the subjects beings brought dead to the hospital. Six of my 35 private patients died suddenly, in addition to 6 who died from rupture of the aneurysm, 4 of whom are definitely stated to have died suddenly, and possibly the other 2 also may have died suddenly.

The duration of life after the recognition of an intrathoracic aneurysm is, in my experience, usually limited to less than 4 years, though in very exceptional cases life may be prolonged for 6 or 7 years.

I have carefully investigated the notes of 35 cases of aneurysm I have met with in private practice. Excluding all doubtful cases and cases in which I have not been able to trace the final result, and excluding also a patient who was alive 10 years after I had made a diagnosis of aneurysm, I find that the average duration of life in 27 cases works out to a little over 2 years and 8 months. There are 2 cases in which death apparently occurred nine months after the appearance of symptoms suggestive of aneurysm, and 1 case in which death was delayed for seven years. Owing to the extreme difficulty which often presents itself in fixing the exact date of the onset of symptoms, I feel convinced that my figures underestimate the duration of life, and I think that about three years would be nearer the mark. In some cases the symptoms of the aneurysm started so definitely after a well-recognised strain that one can be quite sure as to the duration. In one patient who was under my observation nearly the whole time the strain occurred four and a half years before death.

All my 27 cases occurred, as I have already stated, in my private practice; they were almost all of them sufficiently well endowed with this world's goods to be able to take care of themselves, as in every case they had been warned of their condition; and as all the cases had been submitted to treatment more or less carefully carried out, it was to be expected that they would last longer than hospital patients, who generally have to resume work when quite unfit for any active exertion.

Sir William Osler[1] states that "the average duration after discovery is from 18 months to 2 years," but he does not mention from what class of patients his statistics are derived.

A case I showed at the Medical Society[2] in April, 1911, illustrates the slow progress of some cases. The patient was a man of 43 years of age, a wire-drawer. He was originally admitted into Westminster Hospital under my care in July, 1905, placed on low diet, kept at absolute rest, and given iodide of potassium in moderate doses. He improved greatly under treatment, but has taken iodide off and on ever since. He was able to continue at work—fairly laborious—the whole time. In March, 1910, he had a slight attack of hæmoptysis. When shown to the society the physical signs of an aneurysm of the first part of the arch of the aorta were very distinct.

A somewhat similar case is recorded by Dr. Gibson.[3] The patient was a man, 39 years of age, whose occupation involved a very considerable amount of physical exertion, who lived for 12 years after the diagnosis of an aneurysm of the ascending portion of the arch of the aorta, and who died eventually from heart failure. On two occasions he was an in-patient, and was treated by means of absolute rest, restricted diet, and iodide of potassium.

The most remarkable instance of the preservation of life under threatening conditions which I have come across is a case reported by Dr. T. R. C. Whipham.[4] A man, 40 years of age, was admitted into hospital with a rounded tumour in the first and second right interspaces, the skin over it being tense and discoloured. He was under observation for full 15 years, and during the whole of that time he had a large external tumour, though the aneurysm had probably existed a year or so longer. With the exception of about 18 months spent in hospital the patient was able to carry on his occupation of builder's foreman. Death occurred from external rupture of the sac.

These three cases afford good examples of the great difficulty which often attends the prognosis in cases of aneurysm.

LIFE ASSURANCE.

My experience in life assurance has taught me that thoracic aneurysms are not infrequently overlooked, and that consequently they represent one of the causes of early death after assurance.

In a paper I read before the Life Assurance Medical Officers' Association in 1907[5] on Statistics of the Rock Life Assurance Company I made the following remarks:—

> There were 6 deaths from aneurysm of the thoracic aorta and 1 from aneurysm of the abdominal aorta. In addition to these cases there were 3 deaths recorded from rupture of the aorta—these were probably due to aneurysm. Two of the claims due to death from [illegible]
>
> experience will know how difficult is the diagnosis of an aneurysm, [illegible]
>
> life assurance.
>
> Taking the 10 cases of aneurysm and rupture of the aorta together, the average age at entry was 51·5 years, with an average duration of [illegible]
>
> aortic area.

These remarks, made five years ago, are in accord with my present views on the subject.

MEDICAL TREATMENT.

While I was attending the practice of St. Bartholomew's Hospital I was much impressed by the teaching of the late Dr. James Andrew, whose great diagnostic skill and general excellence as a physician were universally admitted by all who had the privilege of working with him in the wards of the hospital. He was particularly keen on the recognition and treatment of intrathoracic aneurysm.

Tufnell's Method of Treatment.

Dr. Andrew was one of the first in London to adopt cent. solution may be used at first without unfavourable symptoms. Occasionally the injection is followed by smart reaction, the patient may have a rigor, and his temperature may rise to 103° or 104° F. Though very alarming at the time no evil may result from it. When this plan of treatment was first introduced into this country two deaths from tetanus occurred, but if the gelatine be carefully sterilised, and strict aseptic precautions be taken in carrying out the injection, the risk of tetanus may be regarded as *nil*.

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* Lectures I. and II. were published in THE LANCET of March 22nd (p. 803) and 29th (p. 869), 1913, respectively.

As regards the results obtained by the gelatine plan of treatment, it may be said that though benefit has resulted in a considerable number of cases, it has not justified the claims that were made on its behalf when it was first introduced, as there is no definite evidence of the cure of a thoracic aneurysm by this means. The two classes of cases in which its employment seems particularly indicated are cases in which an aneurysm has perforated the chest, and in which there is a danger of external rupture, and cases in which there is great pain.

The calcium salts, such as the chloride and lactate, have been employed in the hope that they would favour coagulation of the blood in the sac, but I have not been able to discover any evidence that they have a beneficial action—with the exception of a case mentioned by Dr. Oswald Browne in the discussion on Aneurysm at the Medical Society of London in 1900.

Expectant and Symptomatic Treatment.

Lastly, there comes the purely expectant and symptomatic method of treatment. Some physicians are altogether opposed to the rest cure; they maintain that patients who are subjected to it are worse at the end of the treatment than when it was started, because their tissues had degenerated during their passive existence, and that they were consequently less able to resist disease.

Confinement to bed on a very spare diet has a most depressing effect upon some people, and therefore the cases which are to be submitted to this line of treatment should be selected with the greatest care, as I have already pointed out, not only in regard to the physical state, but also as regards the mental condition. To say that a patient with an aneurysm leaves the hospital, after a rest cure with a modified Tufnell diet, in a worse case than on admission, is not in accord with my experience, now extending over more than 40 years. Still, there are quite a number of patients with intrathoracic aneurysm who do better physically, and certainly mentally, if they are allowed to pursue their ordinary avocations, provided their work be not too strenuous for body or mind. We all must have met men who, when their grave condition has been clearly placed before them, have elected to continue their life work at all risks, and I am bound to say that my sympathy is with them, and that I myself would, under similar circumstances, feel inclined to follow their example.

In the event of a patient deciding to lead his ordinary life, he should be cautioned to take things as easily as possible, to avoid all great exertion, especially of a sudden nature, to eat with great moderation, and, as a general rule, to avoid alcohol. Tobacco may be indulged in with moderation, and by moderation I mean a quantity of tobacco not exceeding three ounces per week.

Medicinally, I have no doubt that these patients are benefited by iodide of potassium, especially if the blood pressure be high. I usually order from 5 to 10 grains with 15 to 20 minims of aromatic spirit of ammonia in chloroform water to be taken three times a day after food. This will often suffice to keep them comfortable.

For the relief of the agonising pain that is sometimes experienced in aneurysm no remedy has a more remarkable effect than bleeding. Dr. Pye-Smith's[14] experience on this point is decisive. He writes as follows:—

> I shall never forget the case of a man who for more than a week had not been able to lie down or enjoy more than broken and uninterrupted (*sic*) sleep. I found him the day after his admission to the hospital sitting up in bed, exhausted by want of rest and continually dropping asleep, but wakened again by the terrible pain he endured. The house physician had given him morphia in full doses without any benefit. He was bled from the arm to 6 oz., and before the blood ceased flowing expressed the relief he felt, and had fallen fast asleep on his pillow before the arm was bound up. His distress was never suffered to reach so advanced a point, and again and again *on its return* he was relieved by a similar or a still smaller abstraction of blood.

One such case is quite sufficient to prove the utility of venesection for the relief of the awful pain occasionally suffered by the victims of aneurysm. Venesection is to be preferred to leeches in these cases, as the relief experienced is more rapid and complete.

The application of an ice-bag suspended from above so as to avoid too much pressure upon the tumour will often have a beneficial result upon the pain.

For the relief of the anginal attacks met with in aneurysm iodide of potassium in 10 to 20 grain doses three times daily will usually effect much good. In cases where the iodide fails liquor arsenicalis in 5 minim doses three times a day will sometimes be found useful. For the acute anginal attacks the inhalation of nitrite of amyl, followed up by the internal administration of trinitine, is generally efficacious. Erythrol tetranitrate, in ¼ to ½ grain doses, may be given instead of trinitine, especially if the duration of the attacks be protracted. But in many cases there comes a time when the only drug to give relief is morphine subcutaneously. I prefer to give it in combination with atropine. I am of opinion that the atropine counteracts some of the injurious effects of the morphine and prolongs its action.

For the treatment of dyspnœa, especially when accompanied by lividity, there is no remedy which can be compared to the abstraction of blood. The blood may be removed either by venesection or by the application of leeches. The over-distended condition of the right heart is often greatly benefited by loss of blood, when there is pressure on the veins causing great venous engorgement.

Should an aneurysmal tumour on the surface of the chest begin to weep and ooze, the best application is styptic lint, kept in position by a broad piece of strapping, but, of course, this can only temporarily check the tendency to rupture.

TRACHEOTOMY.

There is one question in regard to treatment which occasionally presents itself in a most dramatic form—viz., whether tracheotomy should be performed for the relief of paroxysmal and urgent dyspnœa?

In this connexion the older Fellows of the College will doubtless recall the case of the Earl of St. Maur. This case occurred before the laryngoscope was commonly employed in this country, but what Dr. C. J. B. Williams[15] wrote upwards of 40 years ago is still true to-day. After speaking of the life-saving effect of tracheotomy in cases of laryngeal obstruction, he goes on to say:—

> It is different with the dyspnœa caused by *intrathoracic tumours.* These produce not only *laryngeal* dyspnœa by pressure on the recurrent nerves which regulate the motions of the glottis, but also
> *tracheal* ssure on the lower part of the windpipe
> itself. reathing may be due to the pressure on
> the ner may be relieved by the operation for a
> time; but that proceeding from direct pressure on the windpipe is beyond the reach of that or any operation, and if this direct pressure exist to any great degree it would render the operation fruitless.
> Further, it must be borne i
> of intrathoracic tumour, m
> and in other ways besides
> case tracheotomy cannot be regarded in the lig
> Its power to give temporary relief will depend on how much the difficulty of breathing caused by the aneurysm is *laryngeal*, from pressure on the recurrent nerves only, and not *tracheal or bronchial*, from pressure on the windpipe or one of its branches. When there is time and opportunity for careful examination, these distinctions may be made from the character of the physical signs, so as to determine beforehand whether the operation is likely to be beneficial or not.

I have ventured to quote at length the wise remarks of Dr. Williams, and which, though written in the pre-laryngoscopic days, still in the main hold good.

In the discussion at the Medical Society in 1900,[16] on the Diagnosis and Treatment of Intrathoracic Aneurysm, I propounded the question "For what conditions should tracheotomy be advised in cases of aneurysm of the arch of the aorta?" As my contribution to the discussion I then said:—

> gathered from
> ut rarely that
> n. The chief
> trachea, even
> r paralysis of
> the abductors of the cords.

I also mentioned two cases in which I had been called in at the last moment, and in both I had decided that tracheotomy would not give relief. Both these patients died the day after I saw them, and at the necropsy there was found to be direct pressure on the trachea, and this was evidently the cause of the dyspnœa.

Sir William Broadbent, in the course of this discussion, said that "he had seen tracheotomy done, but without influence on the symptoms" On the same occasion Sir James Kingston Fowler mentioned the case of a man who had bilateral abductor paralysis from pressure of an aneurysm, and as a result suffered from most severe paroxysmal attacks of dyspnœa Tracheotomy was performed between the attacks, and the patient, who had had no sleep for two and a half days, went to sleep immediately after the operation, and slept for nearly 24 hours continuously

Of course, there can be no doubt that if the dyspnœa be due to spasm of the adductors or paralysis of the abductors, then tracheotomy will be an immense relief to the patient, on the other hand, tracheotomy is useless in cases of direct pressure on the trachea But it is in cases of a combination of these two conditions—i e, where there is a double stenosis of the air passage, due to bilateral paralysis of the abductors and direct pressure on the trachea—that the great difficulty as to the advisability of tracheotomy arises In these cases the respiratory excursions of the larynx will help in deciding In two cases in which I was called in, at the last moment, to decide whether tracheotomy should be performed I decided in the negative on account of the absence of respiratory excursions of the larynx Where the obstruction is at the glottis there is an up and down movement of the larynx, but where the obstruction is in the trachea this is absent I think that the correct attitude to assume in these cases of double stenosis is to advise operative interference in the hope that the laryngeal condition is the chief cause of the dyspnœa In this event the tracheotomy will add much to the patient's comfort If, on the other hand, the pressure on the trachea be the principal cause of the trouble, then tracheotomy will be practically useless, as it was in the case of Earl St Maur, but the operation would add but little to the patient's distress

The possibility of passing a stiff rubber tube down the trachea, beyond the obstruction, should be borne in mind—an early example of this procedure is afforded by a case recorded by Sir J R Bennett[17] The patient was a man under Mr Bryant's care at Guy's Hospital with a goitrous like tumour pressing on the trachea Tracheotomy was performed, but no air passed out of the chest A long perforated tube was then introduced through the cannula into the bronchus when a rush of air immediately followed and was succeeded by natural respiration

My present attitude towards tracheotomy is in favour of the performance of the operation in doubtful cases The patient may receive only temporary benefit, but we substitute a quiet death for one attended with great suffering To avoid the unpleasant sequel of Earl St Maur's case the [illegible] before the patient's friends the [illegible] it that tracheotomy offered a [illegible] it might only be very partial should there be any mechanical pressure obstructing the *trachea at a lower level*

Before resorting to tracheotomy in cases of paroxysmal dyspnœa the administration of chloroform might well be tried If it relieved the patient operative interference would be uncalled for, but if not, then the operation could be carried out all the easier for the anæsthesia, and artificial respiration resorted to if necessary Even after the performance *of tracheotomy the administration of chloroform* may be necessary to relieve the spasmodic attacks of dyspnœa due to irritation of the vagi

SURGICAL TREATMENT

The surgical treatment of intrathoracic aneurysm may be considered under five heads (1) the ligature of the great vessels arising from the innominate artery or arch of the aorta, (2) the passing of wire—filipuncture—into the aneurysmal sac with or without the passage of a galvanic current through the wire, (3) galvano puncture; (4) Macewen's method of needling, and (5) the ligature of the neck of the aneurysmal sac

Ligature of Vessels

The treatment of thoracic aneurysm by ligature of vessels is not a subject on which I have much personal experience Even among surgeons there is considerable difference of opinion as to the advisability of the operation In a case of aneurysm of the arch, in which Mr Christopher Heath[19] tied the left common carotid, he maintained that the aneurysm was practically cured at the time of death, and that the fatal termination of the case was due to the pressure effects of the consolidated tumour. At the meeting of the Clinical Society when this case was discussed Mr. *Howard Marsh mentioned that in one case in which he tied* the right common carotid and subclavian arteries for aneurysm of the arch, it appeared that the operation made the patient worse instead of better, for the sac rapidly enlarged On the other hand, Mr Holmes, in his lectures delivered before the Royal College of Surgeons of England in 1872, mentioned 7 cases in which the left carotid was tied for *aneurysm of the arch, 4 of these cases were successful, and* all except one derived benefit from the operation

The chief indication for the ligature of the carotid and subclavian vessels is pain, while aortic regurgitation and [illegible] are unfavourable to operation [illegible] with Mr Christopher Heath's[18] [illegible] es in which he tied the left *carotid*

> The results taken as a whole, are perhaps not very encouraging, but it must be borne in mind that in dealing with a practically incurable disease a prolongation of life for even a few months may be worth attempting

Introduction of Wire into Aneurysmal Sac

The introduction of wire into the sac of an aneurysm—*Moore's method*[?]*—has received from M Verneuil the name* of "filipuncture" Though this operation has been attended with very unsatisfactory results in aneurysm of the arch of the aorta, it has been more successful in abdominal aneurysm I have seen only one case in which this treatment has been carried out The patient was under the care of my colleague, Sir Bryan Donkin[21] Mr Macnamara passed a yard of *silver wire into the sac through a curved tubular* needle The man died six days after the operation In 1887 Sir Alfred Pearce Gould[22] operated on a patient of Dr W H White The case terminated fatally on the sixth day from sloughing of the tissues In his report on this case Sir Alfred Pearce Gould mentioned six other cases of aortic aneurysm which had been treated by the introduction of watch *spring or steel wire All the cases ended fatally, but* in one there was temporary improvement

Until the year 1903 the method of wiring was unscientific and was carried out with comparative disregard of aseptic principles In this year Mr G H Colt invented an instrument for the rapid introduction of a known quantity of sterilised wire into an aneurysm, with a minimum of disturbance He has described and figured an improved instrument (No 3)[23]

Dr Dawson Turner's[24] experiments would suggest that surgeons should employ zinc wire for introduction into the aneurysm, which they intended to treat by electrolysis rather than silver or other kinds of wire, a larger and a firmer precipitate being deposited by this means

A full account of the results of the method of treatment by wiring, with or without electrolysis will be found in the discussion which took place at the Surgical Section of the Royal Society of Medicine in May last Mr d'Arcy Power's[25] conclusions at this discussion are so much to the point that I will quote them *in extenso* —

> The chief indications for the operation of wiring are: 1 An [illegible] re; 1 Rapid increase of pain or of [illegible] probably indicative of an early and [illegible] ptoms pass away under treatment the [illegible] ain considered 2 The presence of a [illegible] part of [illegible] at the [illegible] place in [illegible]

Professor A A Eshner[26] has collected the records of 36 cases in which an aortic aneurysm has been treated by the introduction of wire into the sac and the passage of a galvanic current through the wire *In 19—i e, in about* half the cases—death followed within a month of the wiring, the best result being that obtained by Professor Rosenstirn, whose patient lived nearly 12 years after the operation One of Professor Eshner's patients lived four weeks, the other a little over seven months

The risk run in passing wire into the sac of an aneurysm of the arch of the aorta is well illustrated by a case treated by Mr. H. A. Ballance.[27] He introduced silver wire into the sac, and passed an electrolytic current through the wire. The patient lived ten months after the operation in comparative comfort. At the necropsy loops of silver wire were found in the sac, and loops of wire had also passed along the arch of the aorta, as far as the origin of the left common carotid artery and down to the bottom of the left ventricle. It is certainly very remarkable that a foreign body was tolerated in the heart so readily and for so long a period.

A careful consideration of the prospects afforded by wiring an aneurysm, with or without electrolysis, has convinced me that the operation, though quite justifiable in cases of abdominal aneurysm, cannot be of nearly the same service in cases of intrathoracic aneurysm. In the former case the surgeon can cut down and expose the aneurysmal sac, and can form a fairly clear idea as to the amount of sacculation present, and the operation, moreover, can be carried out when the wall of the sac is still in a satisfactory condition. In the case of an intrathoracic aneurysm the surgeon would, indeed, be a bold man who would propose to submit to surgical treatment an aneurysm which had not definitely come to the surface. By the time that this has occurred there is almost invariably a thinning of the sac wall and the risk of rupture. In addition the surgeon cannot satisfy himself that the wire has filled the sac. I expect, therefore, that in cases of intrathoracic aneurysm the operation of wiring will be more or less confined to those desperate cases in which there is a definite pulsating tumour on the chest wall, with the prospect that at no distant date external rupture will occur. If wiring succeeds in prolonging life in even a small proportion of these cases, and very occasionally effects an apparent cure, then I think that the surgeon may reasonably claim that he has done all that could be expected of him.

Galvano-Puncture.—Formation of White Thrombi by Needling.—Ligature of Neck of Sac.

I should feel inclined to restrict the use of galvanopuncture to cases in which the aneurysm has made its way through the ribs or costal cartilages, and where external rupture appears imminent. Cases of this sort have from time to time been recorded in which life has been prolonged in rapidly progressing cases, relief has been afforded to cough, paroxysmal pain, and pulsation, and finally death has taken place slowly and painlessly from gradual oozing from the thickened sac instead of by sudden rupture.

Sir William Macewen,[29] in a paper read before the Midland Medical Society in 1890, advocated the cure of aneurysm by inducing the formation of white thrombi within the sac. The instrument he employs is a cylindrical pin, tapering to a point, like an ordinary sewing needle, with rounded head at the other extremity. He gives the following directions for carrying out the treatment :—

> Before performing the operation the skin over the aneurysm ought to be carefully cleansed and rendered aseptic. The aseptic pin ought then to penetrate the sac and pass through its cavity until it comes in contact with the opposite side. It ought to touch and no more. Then one of two methods may be employed—either to move the pin over the surface of the inner wall so as to irritate its surface, or to allow the impulse of the blood-current playing on the very thin pin to effect the same object. ...... After acting thus for ten minutes at one part the point of the pin, without being removed from the sac, ought to be shifted to another spot, and so on until the greater portion of the internal surface opposite to the point of entrance has been touched; this ought to be done in a methodical manner.

The pin should be allowed to remain in a few hours, though it has been kept in for 24 or even 48 hours. The operation may require to be repeated on several occasions at intervals of about a week. In his original paper[29] Sir William Macewen reports 4 cases—2 of intrathoracic aneurysm, 1 of the abdominal aorta, and 1 of the right femoral. One of the intrathoracic cases and both the remaining cases were apparently cured by the treatment. In the case of the aortic aneurysm which died, at the necropsy the sac contained a large amount of firm white thrombi. Death in this instance occurred from asphyxia due to pressure of the aneurysm upon the trachea.

Though many theoretical objections might be alleged against this plan of treatment, the cases which Sir William Macewen brought forward, though few in number, are so striking that I am astonished that it has not received more attention at the hands of surgeons. Sir William Macewen wrote to me on this subject on Sept. 9th, 1912, as follows :—

> I have had numerous successes since (i.e., 1890), patients living for many years and working as before, with care however.

Mr. Gilbert Barling[30] in his remarks at the discussion on the Surgical Treatment of Aneurysm, on the three principal forms of surgical treatment adopted in the case of aortic aneurysm, did not take an optimistic view of these methods.

> He had never tried the introduction of wire, but he had tried electrolysis, and had been deeply disappointed with it, so that he was not likely to try it again. He had tried the operation of needling, but he did not think that the patient was either better or worse, and he was disappointed at the absence of improvement.

I think it doubtful whether surgeons in the future will attempt direct surgical interference in a case of thoracic aneurysm, but in view of the enormous strides that surgery has made of late years it seems impossible to limit their power of giving relief, if not cure. As an example of what has been attempted I may quote a case put on record by Tuffier.[31] The patient was a woman suffering from sacculated aneurysm of the first part of the arch of the aorta. As she was not more than 40 years of age, was in perfect general health, and was in imminent danger of rupture of the sac, Tuffier determined to ligature the sac close to its insertion into the aorta. This was done, but the aneurysmal sac was not removed. The omission was unfortunate, as the patient, who did well for some days after the operation, died on the thirteenth day from secondary hæmorrhage, due to gangrene of the sac and infection at the seat of ligature.

And here I must leave the question of the surgical treatment of thoracic aneurysm in the hands of the surgeons, hoping that in time to come they may be able to formulate some definite suggestions as to what kind of surgical interference is desirable and in what circumstances it should be adopted.

In concluding my lectures, I would again like to say how much indebted I am to Dr. Hugh Walsham for his generous assistance in putting at my disposal his large experience in the radiography of aneurysm, and I have also to thank most warmly Dr. Braxton Hicks, assistant pathologist at the Westminster Hospital, for his careful investigation of the post-mortem records of the hospital, which enabled me to make use of the valuable information therein contained.

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THE ROYAL SANITARY INSTITUTE.—A provincial sessional meeting will be held at Stafford on April 25th and 26th, when a discussion will take place on the Milk and Dairies Bill, to be opened by Dr. George Reid, county medical officer of health, Staffordshire County Council. Among those who are expected to take part in the discussion are Mr. T. W. H. Garstang, Dr. G. Petgrave Johnson, Dr. A. B. McMaster, Dr. Thomas Orr, Dr. H. Peck, Mr. T. Robinson, Dr. James Wheatley, and Dr. Meredith Young. The chair will be taken at 7.30 P.M. on Friday, April 25th, by Dr. Louis C. Parkes. Tickets for admission of visitors may be had on application to Dr. Reid, county council offices, Stafford, or to the secretary, 90, Buckingham Palace-road, London, S.W.

NON-PARASITIC CYSTS OF THE LIVER.

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NON-PARASITIC cysts of the liver are of uncommon occurrence, and the literature dealing with them, especially with large solitary cysts, was until recent years decidedly scanty. From a practical point of view these cysts may be divided into two classes—i.e., general cystic disease and solitary cysts. This classification is adopted by Bland-Sutton,[1] and although there is a good deal to be said for it, it has disadvantages, which will be referred to later.

General Cystic Disease.

General cystic disease is almost constantly associated with cystic disease of the kidneys, and rarely also of the pancreas, lungs, spleen, and brain. Out of 85 cases collected from the literature, Moschcowitz[2] found that the liver was affected alone in only 10. The condition may be found in children, but frequently it does not develop until adult life. There is a typical specimen in the Museum of the Royal College of Surgeons of England from a woman aged 46, which is figured in Bland-Sutton's book on "Gall-stones and Diseases of the Bile-ducts."

In the slighter forms of the disease the cysts are generally found just beneath the liver capsule, but when the condition is well marked the whole organ is affected and may be enormously enlarged. The general shape of the liver is preserved, but the cysts may project on its surface. The size of the cysts varies from a microscopic acinus to a cavity of the size of a pigeon's egg or larger. Absorption of the wall between adjacent cysts may occur, and often in the larger ones the remains of septa can be seen. Microscopically the cysts are found to be lined by a layer of epithelium, which is columnar in the smallest cysts, but as the cavity increases in [illegible] portal spaces.

The contents of the cysts are usually clear, watery fluid, sometimes yellowish-brown in colour. The fluid contains albumin, mucin, cholesterin, epithelium and granular débris. No bile or bile-pigment is generally present.

In an early case, besides the macroscopic cysts one generally finds on microscopic examination a greater number of bile-ducts than are normally present in the liver. These are mostly situated in the portal canals, surrounded, like the other structures in the canal, by a prolongation of Glisson's capsule, and are hence spoken of as being intracapsular. Thus, instead of a normal single duct, as many as six may be present. A few ducts may also be found in the lobules, where normally they are never found. On section they appear as round, oval, or tortuous acini, lined by cylindrical or cuboidal epithelium. These supernumerary ducts are believed by Moschcowitz[3] to be aberrant bile-ducts of congenital origin, and their development into cysts is believed by him to be the cause of general cystic disease.

Moschcowitz discovered aberrant bile-ducts in the liver of a fœtus unaffected by cystic change. There were also present cystic kidneys, a meningocele, and supernumerary fingers and toes. The whole liver was permeated with a system of ducts, intracapsular and intralobular, having no connexion with the liver cells. Kilvington[4] also examined the liver of a stillborn child showing many congenital defects, including cystic kidneys, and found numbers of [illegible] Moschcowitz. [illegible] the primitive [illegible] anching tubes [illegible] regards these aberrant ducts as a hypoplastic condition due to persistence of an embryonic state. It may be remarked here that small cæcal diverticula from the bile-ducts are commonly found in normal livers. Proliferation of the intrahepatic bile-ducts occurs in cirrhosis of the liver, as was first pointed out by Janowsky.[5] In the cases we are considering, however, there is no cirrhosis present, and, moreover, cysts are very uncommon in cirrhosis.

Fig. 1 is taken from a microscopic section of a liver from a body in the anatomy rooms at King's College, in which a small cyst of the size of a cherry was situated in the right lobe just under the capsule. Besides the larger cyst, several smaller ones were present, and in addition a number of aberrant ducts. Fig. 2 is taken from a section of a piece of the same liver near the portal fissure; it also shows a group of aberrant ducts.

As long ago as 1856 attention was drawn to general cystic disease of the liver by Bristowe,[6] who showed a specimen of this condition before the Pathological Society of London. The cysts are described as being scattered throughout the liver, arranged either singly or in clusters of two, three, four, or more. The larger ones were irregular in shape from fusion of adjacent cysts, and the remains of septa could be seen. The contents are described as thin colourless transparent serum. Microscopically, the cysts are described as consisting of fibrous tissue lined by flat epithelium.

In the same year Beale[7] showed specimens in which he injected the portal vein with size and the bile ducts with Prussian blue. In two or three cases the injection escaped from the ducts into the cysts by rupture of their walls, but there was apparently no free connexion between the cysts and the normal ducts of the liver. There was no dilatation of the ducts, nor could any obstruction be made out. Many smaller cysts were found in the central part of the lobules, and therefore some distance from the ducts. The cysts were thought to arise by degeneration of liver cells.

In 1898 Still[8] brought before the same society two specimens of general cystic disease of the liver—one from an infant of 7 weeks, the other from a stillborn child. Both specimens showed great increase in the fibrous tissue throughout the liver, especially in the portal spaces. Still believes this excess of fibrous tissue is due to persistence of the fœtal condition, in which a large amount of mesoblastic stroma is normal. This feature has also been described by other observers. Still collected 35 cases from the literature, and found the disease occurred three times as often in females as in males. Of the 35 cases, 3 only occurred in infants, while of 26 others in which the age is recorded 17 occurred in adults over 50. He also showed that there was no degeneration of the liver cells, and suggested a congenital origin for cystic disease of both liver and kidney. He believed the cysts were due to irregularity in development, some of the original columns of cylindrical cells being left with their original lumen.

Moschcowitz,[9] in 1906, was able to collect 85 cases from the literature, but found the disease affected the sexes about equally. By collecting the statistics of Lejars, Luzzato, and Johns, he found that 19 per cent. of cases of congenital cystic kidney were associated with a cystic condition of the liver. Moschcowitz himself investigated pathologically 5 cases of general cystic disease, and came to the following conclusions. 1. Non-parasitic cysts of the liver are always associated with other congenital defects in the body, especially cystic kidney. 2. They are always developed from aberrant bile-ducts. 3. These aberrant bile-ducts are embryonic rests, and are only found in cystic liver or in the liver of congenital cystic kidney. 4. Two forms of general cystic liver occur—one from inflammatory hyperplasia of the aberrant ducts, the process advancing centrifugally; the other caused by retention in these ducts, due to congenital obstruction. 5. Congenital cystic disease of the liver is not to be regarded as a tumour formation.

Shaw and Elting[10] added three more to the cases collected by Moschcowitz, and of the total number of 88 cases found that 2 were fœtal, 7 in newly born children, 4 occurred in the first year and 1 in the eleventh year. The other 74 cases occurred in adults, mostly in people over 60. All the cases in infants were multiple, and all were associated with other defects. Heredity was shown to play some part The following is a brief summary of other theories which have been brought forward [illegible]

1. That the cysts ar [illegible] (Pye-Smith[11]) It is [illegible] the production of a space bounded by a definite fibrous wall lined by nucleated cells.

2. Förster's[12] theory supposes that the cysts are due to dilatation of normal bile-ducts, which have been occluded by

inflammatory connective tissue. This theory received general acceptance at one time, and also received support in 1904 in a paper by Blackburn.[13] In many cases, however, there is no excess of connective tissue, and bile is usually absent from the cyst contents. Moreover, jaundice is never present in this condition.

3. Sabourin's[14] theory states that the condition is due to an overgrowth of bile-ducts, which he terms "biliary angioma."

4. That the cysts are tumours—in fact, cysto-adenomata, of the bile-ducts (Siegmund[15] and von Hippel[16]).

5. That the cysts are formed by tumour formation from embryonic remains (Borst[17] and Ribbert[18]).

Theories which invoke neoplastic formation as an explanation of the cysts are open to the very grave criticism that the microscopic appearance in early cases is unlike that produced by simple tumour formation elsewhere, the general appearance being one of infiltration rather than encapsulation. These theories are all discussed by Rolleston in his work on "Diseases of the Liver."

The condition of general cystic disease is, of course, not amenable to treatment, and is more of pathological than of clinical interest. In some cases, however, the largest of the cysts have been dealt with surgically, under the impression that a solitary cyst was present (*vide postea*).

Solitary Cysts.

Solitary cysts of the liver, on the other hand, are of considerable clinical interest, as they often produce well-marked symptoms and are usually amenable to surgical treatment.

Although the term "solitary cyst" is a convenient one, it will be found that in many cases of apparently solitary cyst the liver tissue adjacent to the cyst wall contains potential cysts in the shape of acini lined by epithelium, and in some cases actually small cysts in addition. The former resemble the aberrant bile-ducts which have already been described in association with general cystic disease. In fact, all stages seem to occur from a single cyst to general cystic disease, and the epithelial lining in all cases is practically always the same.

Solitary cysts may occur in children, but most of the reported cases have occurred in adults. When situated near the free margin or under-surface of the liver they often become more or less pedunculated, but sometimes they are entirely intrahepatic, with no suggestion of a pedicle.

As regards the pathology of solitary non-parasitic cysts, opinions are almost as diverse as in the case of general cystic disease. Comparatively few post-mortem specimens have been described. In 1882 Sharkey[19] brought before the Pathological Society a specimen of a solitary hepatic cyst from an adult patient who had died from cerebellar hæmorrhage. The cavity was of the size of a full-term fœtal head, and was entirely intrahepatic. Microscopically, the cyst was found to be lined by a single layer of flat epithelium, with an outer layer of fibrous tissue. The fluid contained no bile, but a large amount of albumin and chlorides.

Plenk[20] described the case of a woman, aged 40, who was admitted to hospital suffering from attacks of abdominal pain, swelling of the abdomen, and intermittent jaundice. The liver extended from the right fourth costal cartilage in the nipple line to the level of the navel. A clinical diagnosis of cirrhosis was made. Symptoms of peritonitis supervened, and the patient died shortly after a laparotomy. At the necropsy the peritonitis was found to be due to a perforated gastric ulcer. On the under-surface of the right lobe of the liver was a large smooth-walled cyst, reddish-white in colour, with patches of hæmorrhage, probably due to the coexisting peritonitis. Microscopically the cyst wall showed a layer of connective tissue lined by cubical epithelium, with isolated goblet cells. The liver tissue in close proximity to the cyst showed here and there proliferated bile-ducts. There were also large vessels showing proliferation of the intima, and islands of liver cells and some groups of leucocytes.

Shaw and Elting[21] relate the case of a single cyst of the liver treated by operation. The cyst had its origin in the right lobe and projected below the costal margin to the right iliac fossa. 900 c.c. of clear yellow fluid were drawn off, which contained a moderate amount of albumin. Microscopically only detritus was found. The patient died, and at the necropsy the cyst was found to be lined by a smooth glistening membrane, which on microscopic examination showed only fibrous tissue, no epithelium. The kidneys were normal.

Zahn[22] collected the post-mortem records of 14 cases. All had a ciliated columnar-celled lining, and in many cases smaller cysts lined by cylindrical epithelium were also present. The contents in all these cases were colourless, clear or slightly turbid fluid, yellow in only one case.

Bland-Sutton[23] gives an illustration of a solitary cyst growing from the free border of the liver. The specimen is in the Museum of the Royal College of Surgeons of England, and was obtained from a woman aged 38. Microscopically the wall consists of fibrous tissue lined by flat epithelium.

A considerable number of cases have been reported in which the cyst has been resected by operation, and the cyst wall and adjacent liver tissue subjected to microscopic examination. Hofmann[24] published such a case in 1902, and collected from the literature 17 other cases of solitary cyst in which operation had been performed. In some of these only incision and drainage had been done, while of those which had been resected a microscopic report is published only in 7. In Hofmann's case the wall of the large cyst showed no epithelial lining, but smaller cysts were also present with papillary growths projecting into their lumen. He regarded it as a cysto-adenoma of the bile-ducts. In König's[25] case, besides the large cyst, smaller cysts were also present, lined by cylindrical epithelium, and the same description also applies to Müller's[26] case. In Bayer's[27] case the cyst appeared to occupy almost the whole liver; incision and drainage were performed and a piece of the wall was removed for microscopic examination. This showed dilated bile-ducts and atrophied liver tissue. Müller's[28] second case is described as a cysto-adenoma. A large wedge of liver, including the chief cyst, was excised. The patient died, and at the necropsy many other large and small cysts were found in the liver. It is significant that in this case the kidneys also were cystic.

In Roberts's[29] case a very large cyst as well as a small one were opened and drained; the tumour is described as a papillary cysto-adenoma, and although not definitely proved, the case was thought to be similar to one operated upon by Keen in 1892, in which the cystic condition was shown to be due to the presence of coccidia. In Bobrow's[30] case multiple cyst formation was found in the wall of the large cyst, each cyst being lined by epithelium. Schultze's[31] case was a large solitary cyst lined by columnar epithelium.

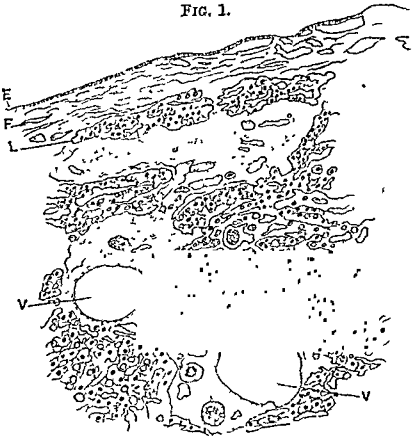
Bland-Sutton[32] resected a more or less pedunculated cyst, which showed at its junction with the liver small loculi lined by epithelium and biliary ducts lined by cubical cells. The large cyst itself was lined by flat epithelium. Bland-Sutton thinks that the cyst arose from dilatation and fusion of the bile-ducts, and suggests that the condition is possibly brought about by the pressure of stays on the thin anterior strip of liver.

Many German authorities regard cysts of the liver as an outgrowth from the bile passages of an adenomatous type. Ziegler[33] refers to the subject but briefly, stating that adenoma of the bile-ducts may be solid or cystic. His illustrations of this condition show a large number of acini in the peri-portal tissue without any very definite capsule. Von Haberer[34] also regards simple cysts of the liver as an adenomatous growth, and believes general cystic disease is a further and more advanced form of solitary cyst. His own case showed one large cyst and some smaller ones at the upper and lower poles, which communicated with the main cyst. Microscopically the cyst showed a lining of cubical epithelium, and the piece of liver excised with the cysts showed proliferation of the bile-ducts, apparently unlimited, however, by any definite capsule. Ikonokoff's[35] case is simply described as a cystic adenoma of the bile-ducts.

It will be noted from the foregoing abstracts that in many of the cases, besides the chief cyst, smaller cysts were also present, and on microscopic examination small loculi lined by epithelium and an unusual number of bile-ducts in the liver tissue adjacent to the cyst. In fact, as already stated, all stages seem to occur from a single cyst to multiple cystic disease. If the latter is believed to arise from aberrant bile-ducts, the so-called solitary cyst quite possibly has its origin in the same source. It will be noted in the following table that in one case of localised cystic disease the kidneys were also cystic—a condition which, as has been stated above, is frequently present with general cystic disease of the liver. This view of the origin of simple cysts is also supported by Kilvington,[36] who says that no sharp distinction can be drawn between large and small, single and multiple, cysts, and suggests that both have a similar origin.

The question of the contents of the cysts may, perhaps, be thought to throw some light on the matter. In general cystic disease the contents are usually clear watery fluid, sometimes yellowish-brown in colour. The fluid contains albumin, mucin, cholesterin, epithelium, and, rarely, bile. The contents of the solitary cysts are similar, except that bile is rather more frequently present. This is easily explained by supposing that, as the cyst increases in size, large intrahepatic bile-ducts come to open into it, their [illegible] essure atrophy. This would also [illegible] bile, which is reported in some [illegible] after the cyst has been opened and drained. Waring [illegible] states that bile may find its way *in this manner into a hydatid cyst, so the same process* may quite conceivably take place in a simple cyst. If the cysts arise as an adenomatous condition from normal bile-ducts, one would expect to find bile present in the fluid much more frequently than is actually the case. The presence of papillomatous growths in some of the cysts suggests more strongly a tumour formation, and possibly these cases may be of that nature, taking origin from aberrant bile-ducts. It will be noted, however, that Keen's case of cysto-papillo-adenoma of the bile-ducts was shown to be due to the presence of coccidia.

FIG. 1.



Section [illegible] dissecting room sub- ject [illegible] ls. F, Fib[illegible] s. V, Vei[illegible]

Some of the cases reported seem to have been retention cysts. Thus in North's[38] case, after several attacks of colic extending over four years with intermittent jaundice, a rapidly increasing tumour appeared in the left lobe of the liver. The cyst was aspirated, and five pints of coffee-coloured fluid was drawn off. The patient died from leakage of bile into the peritoneal cavity. At the autopsy the cyst was found to be the size of a man's head. There was a large calculus in the gall-bladder, and another the size of a marble in the common duct, one inch from the lower end. Waring[39] takes this view of North's case, but Hofmann[40] thinks it was a case of cysto-adenoma, and independent of the calculus in the duct.

In Mayo Robson's[41] case there was enlargement of the liver with jaundice. A cyst developed in the right lobe, which was aspirated, and 6 ounces of straw-coloured fluid drawn off. Two months later the cavity was opened with the cautery, and 8 ounces of fluid drawn off. Bile discharged freely from the wound. A month later Robson removed two stones from the common duct, and a large one from the gall-bladder.

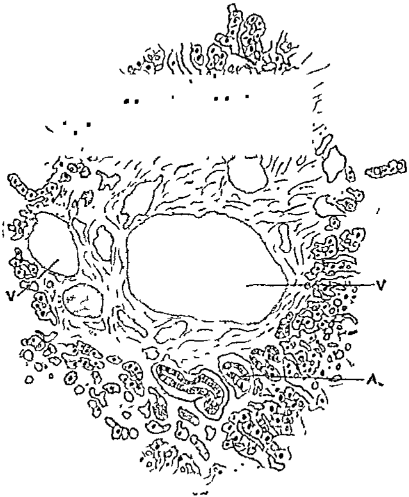
Another case of what was probably a retention cyst was published by Terillon.[42] In this case two litres of biliary fluid were drawn off by puncture. The patient died three months later, and post mortem a carcinoma of the liver was found and cystic dilatation of the bile-ducts.

Peyton Beale[43] has also recorded a case in which cystic dilatation of the liver was found post mortem two years after calculi had been removed from the gall-bladder and common duct. The cysts contained bile. Paton[44] has also recorded a somewhat similar case in which obstruction to the bile-ducts was caused by a hydatid cyst at the portal fissure. The intrahepatic cysts were caused by dilatation of the bile-ducts, and many of them contained calculi.

Retention cysts due to congenital atresia of the common bile duct have also been described. Witzel[45] describes a case of congenital atresia of the common bile-duct in a female non-viable child, with a large cyst in the left lobe and a smaller one in the right lobe which communicated with each other.

Retention cysts due to extreme dilatation of the extra-hepatic ducts from congenital atresia have also been recorded. Oxley's[46] case was a *female child of* 5 months, which had an enormously distended abdomen, was jaundiced and emaciated. An abdominal tumour had been noticed since birth, which *increased in size* and formed a rounded tense globular swelling. This was aspirated twice, 36 and 16 ounces of bile being drawn off. The child died, and at the autopsy the gall bladder was found to be normal but contained no bile. The cystic and hepatic ducts opened into the cyst, *which proved to be a dilated common bile duct.* The opening of this duct into the duodenum was impervious. Edgeworth's[47] case was a female child of 4½ years. Her illness began at the age of 6 months with an attack of jaundice which lasted three weeks. A tumour gradually developed, and was opened and drained. The child died, and post mortem it was discovered that the tumour was not, as was believed at th[illegible] ladder, but a greatly distende[illegible] end of the duct was very [illegible] only a hair-pin.

FIG. 2.



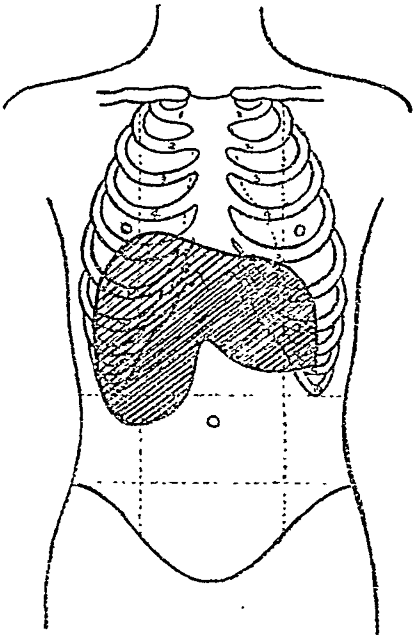
Section of another piece of the same liver, close to the portal fissure, apparently unaffected by cystic change. A, Aberrant bile-ducts. V, Vein.

Doran[48] has recorded a case of a woman aged 42, in which he believed that the cyst, which contained three pints of "pure bile," was traumatic in origin. Three years before coming under treatment she received a severe blow on the right hypochondrium from a fall against a wash-tub. The patient was three months pregnant at the time, and abortion followed in a few days. Doran suggests that the blow might have caused rupture of an intrahepatic duct, followed by slow extravasation of bile into bruised liver substance around it. As the cyst was opened and drained no portion was removed for microscopic examination. Kilvington thinks that cysts may also rarely develop from angiomata of the liver, while dilated lymph spaces have also been described as a cause of cyst formation. Langenbuch[40] mentions a case of dermoid cyst which contained hair and cartilage.

The following is a case of non-parasitic cyst which came under my own care :—

The patient, aged 27, first came under the care of my colleague, Dr. Basil Price, in October, 19[illegible] otes were made: "Married three years; one ch[illegible] in October, 1909. No miscarriages. She had [illegible]. No history of alcoholism or of any injury in the hepatic region. She nursed the child for five months and was treated for anæmia at the end of this time. Amenorrhœa since the birth of the child. Has had troublesome diarrhœa since July, 1909, the bowels acting several times a day; motions loose; never any blood. Occasionally she is constipated. Has complained of occasional pain in the right hypochondrium and epigastrium. No vomiting. Never had jaundice. Has wasted somewhat in the last 12 months. Is troubled with attacks of profuse sweating, especially at night." [illegible] conjunctivæ have yellowish tinge. Heart and lungs normal. No ascites or swelling of the feet. Liver greatly enlarged; lower edge of right lobe reaches to level of navel. (Fig. 3.) Left lobe also apparently enlarged, its lower edge being just above the subcostal plane; well-marked notch between the two lobes. Upper margin of liver dulness in right nipple line at fourth intercostal space. The surface was everywhere smooth and regular. Rectal examination negative. Blood count: Red cells, 5,200,000; white cells, 12,000; hæmoglobin, 80 per cent. Nothing abnormal in shape of red cells. Von Pirquet's reaction positive. Temperature subnormal in the morning, with usually an evening rise to 99° or 100°F.

FIG. 3.



Oct. 18th 1910

The patient stayed in hospital four weeks and gained 4 lb. in weight. The bowels acted from two to five times a day. She was able to eat ordinary food.

The patient was readmitted to the hospital on Oct. 9th, 1911, under my care, Dr. Price having seen her as an out-patient some days previously. Since leaving the hospital a year ago she has had occasional pain over the liver; there has been no swelling of the feet. Has had some shortness of breath.

Condition on Oct. 9th, 1911.—Weight, 7 st. 11½ lb. No trace of jaundice. Blood count: red cells, 4,940,000; white cells, 15,000. Abdomen: Liver greatly enlarged, with an obvious rounded projection forwards below the inner part [illegible] (Fig. 4.) On palpation this projection was f[illegible] in it was not great. The lower edge of [illegible] umbilical plane. Peritoneal friction was palpable and audible through the stethoscope over the cyst. The rest of the liver was firm. Liver dulness began above in the right nipple line at the second intercostal space and was absolute at the fourth space. No hydatid fremitus made out. The left superficial epigastric vein was very much dilated and tortuous; the blood-flow in this vein was definitely upwards. Right vein not noticeable. Veins also visible over lower part of chest.

[illegible] f the right lobe of the liver, possibly hydatid or [illegible] cyst. The chief point against hydatid was the [illegible] ision in the cyst. There was no eosinophilia. [illegible] ught to be due to pressure upon the portal vein causing portal congestion, and thus to correspond to the diarrhœa of alcoholic cirrhosis. The dilated superficial epigastric vein was thought to be due to pressure upon the inferior vena cava, although its presence only on one side was a curious point. The cyst has obviously enlarged considerably in the last 12 months, mainly in an upward and forward direction.

Operation.—A three-inch incision was made over the most prominent part of the cystic swelling, just below the costal margin, through the fibres of the right rectus. A few delicate adhesions were found between the tumour and the anterior abdominal wall. At the most prominent part the wall of the cyst was milky-white in colour, from thickening of the peritoneal coat; outside this area the colour was a greenish-brown. The abdomen was packed off with gauze and an exploring needle and syringe drew off from the cyst a green fluid looking like bile. The cyst was then emptied with a trocar and cannula, four pints of the same kind of fluid being drawn off. A probe passed into the cyst for a distance of 7 inches and revealed an enormous cavity which must have extended almost to the diaphragm above and crossed the middle line for several inches. It was not considered advisa[illegible] wall, and microscopic examination of the [illegible] as made would probably not have reveal[illegible] wall at this point was thin and fibrous. A rubber tube was fixed in the opening into the cyst, which was stitched to the parietal peritoneum. The rest of the wound was closed in layers in the usual way. The gall-bladder and bile-ducts were not seen, but the cyst was clearly intrahepatic and quite independent of these structures.

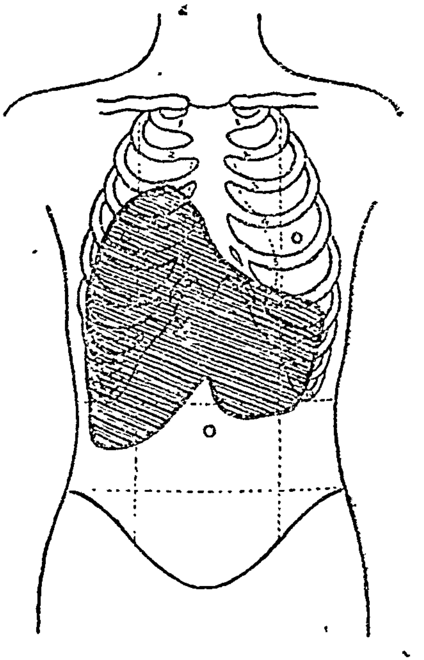
After-history.—For some days after the operation there was a profuse discharge of bile-coloured fluid, which changed from green to a yellow-green, and also became thicker and more mucoid than that removed at the operation. The cavity was washed out with sterile water. The diarrhœa ceased immediately after the operation and did not return. The day after it was noted that the direction of the blood flow in the left epigastric vein was distinctly downward, whereas before the operation it had been distinctly upward. I take this to mean that the pressure on the portal vein and the inferior vena cava had been relieved by emptying the cyst. On Oct. 21st it was noted that the upper margin of liver dulness in the right nipple line was now at the sixth rib, and the lower edge of the liver could be felt an inch above the level of the navel. The night sweats continued as before the operation. Some infection of the cavity occurred a week or so after the operation, the discharge became offensive and muco-purulent, and the temperature rose every evening to about 100°-101° F. This subsided after a few weeks, and by the end of December the capacity of the cavity had diminished to 5 oz.

On Jan. 11th a most unfortunate incident occurred. The cavity was being irrigated with a weak solution of hydrogen peroxide, a proceeding which had been performed by the ward sister daily for some weeks with beneficial results, when the patient complained of severe pain. [illegible] occurred from the sinus. The opening had [illegible] considerably, and the tube fitted closely. Apparently the pressure caused by the escaping gas from the hydrogen peroxide either ruptured the cavity or tore it from the abdominal wall. Peritonitis rapidly followed, and laparotomy was performed. Bile-stained purulent fluid was found all over the abdomen; the pelvis and both loins were drained, but the patient died next day. This unfortunate occurrence shows the danger of using peroxide of hydrogen for the irrigation of cavities unless there is very free exit for the evolved gas, a danger to which, as far as I know, attention has not previously been called. The accident occurred three months after the operation, and there is every reason to believe that, but for its occurrence, the patient would have made a complete recovery. No post-mortem examination was allowed.

Examination of the fluid contents of the cyst.—Clear, slightly mucoid, dark green in colour, specific gravity 1007, slightly alkaline, albumin present in abundance. Bile tests (Pettenkofer and Gmelin) strongly positive. No reduction with Fehling's solution. Slight deposit on standing, which microscopically consists of granular débris, cholesterin crystals in abundance (notched plates), no hooklets or scolices.

This is undoubtedly one of those rare cases of hepatic (presumably solitary) cysts of non-parasitic origin. Its position in the interior of the right lobe of the liver excludes the possibility of its having arisen from dilatation of the gall-bladder or of the extra-hepatic bile-ducts. Moreover, obstruction to the cystic duct, as, for instance, by an impacted calculus, produces a hydrops of the gall-bladder, the contents of which are almost clear mucus, whereas the contents of this cyst were almost pure bile. The absence of jaundice, with the exception of a faint tinge noticed a year before the operation, practically excludes obstruction in the extrahepatic ducts as a cause of the cyst formation. It is known that calculi may exist for a long time in the common duct without giving rise to jaundice, but in these cases there cannot be any increase in pressure in

FIG. 4.



Oct. 9th 1911. X Fluctuation.

Table giving Details of 54 Cases of Large Cyst or Cystic Tumour of the Liver submitted to Operation

No	Operator, year, and publication	Sex and age	Symptoms, &c	Site	Contents	Operation	Pathological report	Result
1	Gloz 1864 (cited by Winckler, Zur Kasuistik der Leber cyst Inaugural Dissertation Marburg 1891)	M, 28	Large cyst, rapid growth, caused severe dyspnœa	Right lobe anterior and inferior surfaces	6 litres removed in two tappings	Multiple punctures	Not described	Death after several punctures
2	Cousins, 1874 Brit Med Jour, 1874, vol ii, p 700	F 27	Diagnosed as ovarian Large cyst.	Under surface	2½ gallons clear limpid yellow fluid	Partial resection Stump fixed to abdominal wall	Simple cyst Specimen in Royal College of Surgeons Museum	Death 36 hours after operation from peritonitis
3	North 1882 New York Medical Reports, 1882	M 45	Attacks of colic and jaundice due to calculi in common duct Rapidly increasing swelling below left costal margin	Left lobe	5 pints coffee coloured fluid Specific gravity 1015 Contained albumin and bile	Aspirated	Cyst size of man s head	Death from leakage of bile into peritoneal cavity Post mortem, calculi in gall bladder and common duct
4	Kaltenbach (cited by Winckler, cf No 1)	F	Diagnosed as ovarian 10 years history Filled whole abdomen Punctured several times (320 litres in all drawn off)	Inferior surface	Viscid greenish brown fluid	Resection	Not described	Recovered Well 5 years later
5	König, 1886 (cited by Hüter, Inaugural Dissertation, Göttingen, 1887)	F, 11	Filled whole abdomen Rapid development Fluctuation	Inferior surface of right lobe	2½ litres greyish fluid containing cholesterin	Resection Raw surface closed by suture	Large and small cysts, lined by cylindrical epithelium (Diagnosis cysto-adenoma)	Recovery
6	Ahlfeld 1890 (cited by Winckler, cf No 1)	F 38	Diagnosed as ovarian Irregular painful menstruation	Inferior surface	8 litres slimy yellow fluid Albumin trace of bile, cholesterin	Incision and drainage	Cyst wall of connective tissue No epithelium demonstrated	Recovery Fistula at end of 3 months
7	Muller 1891 Verhandlungen der deutschen Gesellschaft für Chirurgie, 1893	F, 59	Filled whole abdomen Swelling noticed 10 years ago Bladder symptoms diagnosed as ovarian	"	6 litres chocolate coloured fluid	Resection of two thirds suture of rest to abdominal wall	Large and small cysts lined by epithelium Diagnosis: cysto adenoma	Recovery Well after 6 years (Verhandlungen der deutschen Gesellschaft für Chirurgie, 1897 1 137
8	Terillon, 1891, Bulletin et Mémoires de la Societe de Chirurgie, 1891	M, 52	Great wasting Intense jaundice	Intra hepatic	2 litres bilious fluid	Puncture	Probably a retention cyst	Death after 3 months Post mortem carcinoma of liver and cystic dilatation of bile-ducts
9	Körte (cited by Langenbuch)	?	Cysts as large as an egg	Liver margin	Serous fluid	Incision and drainage	Not described	Recovered
10	Bayer, 1892 Prager Medicinische Wochenschrift 1892, No 52	F, 56	*Very large tumour Rapid development (4 months)* Fluctuation Bowels irregular No jaundice Pallor	*Occupied* whole liver	*8 litres* brownish grey fluid	"	Section showed atrophied liver tissue and dilated ducts	Recovered.
11	Berg 1894 Hygieia, Band iv, 1894	F 45	Epigastric tumour, size of hen s egg, to left of mid line	Anterior border of left lobe Pedunculated	—	Resection	—	Recovery
12	Roberts 1894 American Journal of Medical Sciences 1894	F 56	Great enlargement of liver	Intra hepatic	Clear limpid fluid	Operation in two stages Cyst incised on eighth day Also several small cysts opened	Diagnosis cysto adenoma	Died 3 weeks *after operation* Bed sores Post mortem, liver greatly enlarged Over three-fourths of it riddled with cysts One contained pus Both kidneys cystic
13	Chrobak 1894 Wiener Klinische Wochenschrift, 1898 No 14	F, 46	Swelling in region of liver 5 years No pain Last six months pain, dyspnœa, loss of strength Filled almost whole abdomen Surface bossy Fluctuation	Large cyst in right lobe	Half a litre fluid Yellow green alkaline No bile No sugar Albumin 30 per cent, specific gravity 1014	Operation in two stages Incision and drainage	Smaller cysts scattered over surface of liver, chiefly in right lobe	Recovered Well 5 months later
14	Muller, 1896 Verhandlungen der deutschen Gesellschaft für Chirurgie 1897, I, 137	F	Very large reached to pelvis 6 years history	Right lobe	Clear serous fluid	Excision of a large wedge Innumerable small cysts opened in the process	Diagnosis cysto adenoma Cysts varied in *size from a pea to a fist*	Died on eleventh day *from* embolism Post mortem, kidneys also cystic
15	Czerny, 1898 (cited by Petersen, Verhandlungen der deutschen Gesellschaft fur Chirurgie, 1898)	?	Large tumour.	?	?	Resection	Cyst of bile-ducts	Recovered
16	Bobrow, 1898 Chirurgia Band iv p 36 Reference in Centralblatt fur Chirurgie 1899 No 10	F, 51	Swelling 4 years At first size of a fist, finally 20 ins in diameter Connected with liver Gall bladder lay behind	Inferior surface	*Dark fluid* containing threads	*Resection of* sac stump sutured to abdominal wall	*Multiple cyst formation* in wall lined by epithelium Diagnosis: adeno-cystoma	Recovered

Table giving Details of 34 Cases of Large Cyst or Cystic Tumour of the Liver submitted to Operation (continued).

No.	Operator, year, and publication.	Sex and age.	Symptoms, &c.	Site.	Contents.	Operation.	Pathological report.	Result.
17	Porter, 1898 (reported by Shattuck). Boston Medical and Surgical Journal, 1900, p. 427.	F., 63	Abdominal swelling; painless; not tender; reached to iliac crest. Fluctuation. Hæmorrhage from bowel.	Upper surface of liver, close to falciform ligament. Liver pushed down.	1 gallon of clear, colourless fluid. After a time some bile discharged from sinus.	Incision and drainage.	Diagnosis: cysto-adenoma of bile-ducts. Cyst wall contained bile-ducts and small cysts.	Died some months later after second operation to close persistent sinus.
18	Schultze (cited by Leppmann). Deutsche Zeitschrift fur Chirurgie, Band liv., 1900.	F., 14	Swelling 14 days. No jaundice. Round tumour [illegible] tion.	Inferior surface.	1500 c.c. Viscid turbid yellow-brown. Specific gravity 1013. No sugar.	Resection of sac; operation in two stages.	Cyst lined by columnar epithelium. Dilated bile-ducts in outer layer of cyst.	Recovered, with persistent sinus.
19	C. Hofmann, 1900. Mittheilungen aus den Grenzgebieten der Medizin und Chirurgie, 1902.	F., 28	Abdominal swelling 6 months. No trauma. Tumour occupied almost whole abdomen, especially above, to right.	Pedicle attached to quadrate lobe.	Muddy; yellow-grey. Albumin. Cell detritus.	Resection; raw surface sutured.	No epithelium in large cyst. In wall were smaller cysts with papillary growths projecting into lumen.	Recovery.
20	Schmidt (cited by Waring).	F., 60	Small tumour of liver.	?	?	Resection.	Reported as cysto-adenoma. Tumour contained a mass of cysts.	Recovery. Well 6 years later.
21	Bird (reported by Kilvington). Intercolonial Medical Journal of Australasia, vol. vii., 1902, p. 557.	?	Fluctuation. Low-tension cyst.	?	?	Incision and drainage.	Simple cyst.	Recovered. Two years later cyst refilled, or a fresh one developed.
22	Mayo Robson, "Gall-stones," Case 28. (Also "Diseases of Gall-bladder," Case 35.)	F., 42	[illegible] lated; opened again. Jaundice improved at first; then stationary.	Right lobe.	6 oz. clear straw-coloured. Later 8 oz. Bile discharged from wound later.	Aspirated first; then incised with cautery. Cholecystotomy and choledochotomy 4 weeks later.	? Retention cyst.	Died from pneumonia several weeks later.
23	Doran, 1903. Transactions of the Royal Medical and Chirurgical Society, 1904. Also Brit. Med. Jour., 1903, vol. ii.	F., 42	Blow over liver 3 years previously. Jaundice 4 *months*. Irregular vomiting. Profuse perspiration. Liver enlarged. 10 days before admission violent attacks of pain in upper abdomen. Attacks recurred. Diarrhœa. Large fluctuating swelling to right of navel. Menstruation regular but scanty. Wasting.	Right lobe. Gall-bladder and ducts lay behind.	48 oz. pure deep green bile. Later 16 oz. bile removed. Free discharge of bile from wound for some weeks.	Incision and drainage.	? Traumatic cyst.	Recovery. Cyst closed in 9 months. Patient well 6 months later. (Brit. Med. Jour., 1905, vol. ii., p. 1319.)
24	Miller, 1903. American Journal of Obstetrics, vol. xlviii., August, 1903, p. 182.	F., 2½	Abdomen enlarged at birth. No jaundice.	Reported by Doran as intrahepatic. Miller believed it to be a dilated gall-bladder.	5 pints of bile.	Operation in two stages. Opened with cautery.	—	Recovery.
25	Morton, 1903. THE LANCET, Nov. 14th, 1903, p. 1395.	F., 63	Swelling 2 months. No other symptoms. Cyst size of an orange.	Right lobe just above quadrate lobe.	Clear, straw-coloured fluid.	Incision and drainage.	Simple cyst.	Recovery.
26	Blackburn, 1904. Transactions of the Pathological Society, vol. lv.	F., 49	Swelling under left ribs for several months. Albumin and pus in urine.	Right lobe. Cyst size of tennis ball.	Watery straw-coloured fluid; no sugar. Albumin.	Incision and aspiration.	Large number of smaller cysts present.	Recovery. Left kidney excised later; it was a mass of cysts. Well 3 years later.
27	Reid. Intercolonial Medical Journal, vol. i. (Cited by Blackburn.)	M., 62	Pain in left lobe of liver. Swelling.	—	Bile-stained fluid.	Incision and drainage.	—	Died. Post mortem, cystic kidneys, and liver honeycombed with cysts.
28	Bland-Sutton, 1905. Brit. Med. Jour., 1905, vol. ii., p. 1167.	F., 75	Epigastric swelling, size of apple, increased to size of man's head. Painless. Clinically resembled mesenteric cyst.	Lower border of left lobe. Pedunculated.	2 pints brown fluid, neutral. Specific gravity 1007. Trace of blood; no sugar. Scanty solid matter.	Resected.	Wall consisted of fibrous tissue lined by flat epithelium. At juncture with liver, several small loculi lined by epithelium, and several biliary ducts. (Lockyer.)	Recovery.
29	Ikonokoff, 1906 (Russk. Vrach, St. Petersburg, 1906. Quoted *in extenso* by von Haberer. *Vide* No. 30).	?	Jaundice 15 years previously. Pain in region of liver; swelling.	In right lobe.	?	Partial resection; stump fixed to abdominal wall.	Cyst size of child's head. Diagnosis: cystic adenoma of bile-ducts.	Recovered. Still had fistula 1½ years later.

Table giving Details of 34 Cases of Large Cyst or Cystic Tumour of the Liver submitted to Operation (continued)

No	Operator, year, and publication	Sex and age	Symptoms, &c	Site.	Contents	Operation	Pathological report	Result
30	Von Haberer, 1909 Wiener Klinische Wochenschrift, 1909 vol xxii, p 1788	F, 34	Six months pain in upper abdomen Vomiting of watery fluid Night sweats Swelling : 14 days Size of child s head in epigastrium Gastric *peristalsis visible to left* of cyst Colon below tumour Diagnosed as pancreatic cyst or adhesive form of tuberculous peritonitis	Occupied whole of left lobe extending right up to falciform ligament	Clear bright yellow mucin Albumin 6 per cent Bile pigment Glycogen	Left lobe excised *in toto*	One large cyst, several smaller ones at upper and lower poles which communicated with large cyst Lined by cubical epithelium Adjacent liver *show* excessive number of bile ducts Diagnosis : cysto adenoma of bile-ducts	Recovery.
31	Shaw and Elting, 1909 Archives of Pediatrics New York 1909 vol xxvi, p 818	F, 1½	Abdominal swelling increasing Projected below costal margin to right iliac fossa and to mid line No jaundice	Right lobe	900 c c clear yellow fluid Moderate amount albumin	Incision and drainage	Cyst lined by smooth glistening covering No epithelium could be seen	Died from shock Post-mortem kidneys healthy, gall bladder normal
32	Aldous 1911 Brit Med Jour, 1911, vol i	F 43	Epigastric swelling 2 months Biliousness No pain Fluctuation	"Free border of liver	12 pints thin, dark, muddy fluid No bile Hæmoglobin crystals	Incision and drainage	Simple cyst	Recovery.
33	Corner 1912 Medical Press and Circular, 1912	F	15 years, attacks of colicky pain in right hypochondrium Vomiting No jaundice Tumour suggested distension of gall bladder	Right lobe Anterior margin Cyst 4 in in diameter	Slightly opalescent fluid	Resection	Simple cyst	Recovery.
34	Sidney Boyd, 1911	F 27	Anæmia, amenorrhœa, diarrhœa Pain in right hypochondrium No vomiting No jaundice Wasting Temperature 99° 100° F Profuse perspirations Some dyspnœa Fluctuation	Right lobe, intrahepatic	4 pints clear mucoid dark green Specific gravity 1007 Alkaline Albumin Bile present Cholesterin	Incision and drainage	Simple cyst	3 months after operation died from peritonitis following rupture of sinus

the bile ducts The presence of a large quantity of bile in a simple cyst, apart from those due to retention, is of rare occurrence With the exception of Doran's case which was believed to be due to trauma and in which the contents were also practically pure bile, this is the only case on record in which bile was present in any great quantity In the report of some cases, however, the presence or absence of bile is not stated The explanation of the presence of bile in a simple intrahepatic cyst has already been suggested—namely, that as the cyst enlarged, an intrahepatic duct or ducts came to open into it This would also account for the discharge of bile which occurred after the operation The absence of a post-mortem examination, of course, leaves one in some doubt, but I am inclined to regard this case as one of a simple cyst, probably arising in aberrant bile ducts

I have been able to collect 33 cases from the literature in which a large cyst or cystic tumour of the liver has been subjected to operative treatment Eighteen of these were collected by Hofmann[50] in 1902, and Doran[51] gave an abstract of five of these cases in his paper in 1903, together with three others not quoted by Hofmann As Doran's is the only paper published in English in which any number of cases has been collected, it seems advisable to give an abstract of all the reported cases in the accompanying table

Cysts may also occur on the surface of the liver under its peritoneal coat or in the peritoneal ligaments of the liver Thus Henderson[52] records a case of cyst of the round ligament of the liver operated on by Mayo The symptoms came on suddenly with violent epigastric pain, from which the patient recovered and had no discomfort for some time afterwards

A case recently came under my notice of a woman with advanced cystic disease of both kidneys She died while in hospital from uræmia, and at the necropsy, besides the polycystic condition of the kidneys there were two thin-walled serous cysts on the under surface of the liver, close to the portal fissure Possibly the case recorded by Ward Cousins (No 2 in the table) and also some others belongs to this category.

A similar case came under my observation in 1908 The patient was under the care of Mr Peter Daniel at Charing Cross Hospital, who operated upon her and who has kindly allowed me to refer to the case here She was a woman aged 56, who had suffered for over two years with pain after food and irregular vomiting A swelling had been detected in the region of the gall bladder two years previously and operation advised but declined The swelling had increased more rapidly in the last two months At the operation a large thin walled cyst was found to spring from the under-surface of th [illegible] ay on the left side of the cyst and [illegible] There were no calculi in the comm[illegible] cyst was extirpated and the gall bladder removed The contents of the cyst, which amounted to several pints, consisted of straw coloured fluid, specific gravity 1010, alkaline, contained a moderate amount of albumin, but no bile No epithelium could be demonstrated in the cyst wall Possibly these cases have an origin in an extrahepatic aberrant bile duct, which has been shown by Renault[53] to occur especially on the inferior surface

Clinical features of solitary non parasitic cysts of the liver —The most striking point is the great preponderance of the condition in the female sex Of the 34 cases collected in this paper 24 were in females, 4 are stated to have occurred in males, while the sex is not stated in 6—i e, out of 28 cases in which the sex is stated nearly 86 per cent were in females Of the 4 which occurred in males, one was North s case of retention cyst due to an impacted calculus; one was Terillon's case associated with carcinoma of the liver, and was also probably a retention cyst The greater preponderance of the condition in females is in agreement with its suggested congenital origin, as developmental defects are well known to be more common in that sex Both Hofmann[54] and Bland Sutton[55] think the greater frequency in females is possibly associated with the pressure of stays

The age of the patients is stated in 26 The youngest was Shaw and Elting s case, which was 18 months old Miller's case was operated on at the age of 3, but the abdomen had been noticed to be enlarged at birth The oldest was 75 (Bland Sutton's case)

The clinical signs and symptoms are very variable, depending on the size and situation of the tumour and its pressure effects

Pain does not appear to be a very marked feature Indeed, in some cases its entire absence is particularly stated A certain amount of pain in the upper abdomen is reported as occurring in some cases, in my own case this was associated with palpable friction over the cyst, due to localised peritonitis. Doran's case had several attacks of pain in the ten days preceding operation.

Dyspepsia and vomiting occurred in several cases. Gastric peristalsis was noted in one case. Diarrhœa was a marked feature in only two cases; this may have been due to portal congestion from pressure caused by the cyst. Irregular action of the bowels is noted in some cases.

Jaundice, independently of calculi in the common duct and malignant disease, occurred in only one case. It was apparently due to pressure on the bile-ducts at the portal fissure, but catarrh of the ducts may also have been a contributory cause. In my own case a faint trace of jaundice was noted about a year before operation, but soon passed off.

Interference with menstrual function is recorded in some cases, the catamenia being scanty or absent altogether. A certain amount of wasting and loss of strength was sometimes present, while profuse perspiration was a noticeable feature in two cases.

An abdominal swelling, in most cases diagnosed as a cyst, was present in all cases. Its size varied from a comparatively small tumour to one occupying almost the whole abdomen. In the latter cases dyspnœa was sometimes present, and in one case pressure on the bladder caused symptoms.

Fluctuation was generally readily obtained. In some cases the surface was bossy. A characteristic feature of non-parasitic cysts is their comparatively low tension. A connexion of the cyst with the liver can generally be made out by careful palpation, if necessary in a hot bath to secure good muscular relaxation. In the smaller cysts the tumour was situated in the upper part of the abdomen, usually on the right side, sometimes in the middle line or on the left. The cyst sometimes extends upwards and causes elevation of the diaphragm, raising the level of hepatic dulness. Rapid development of the cyst is often a striking feature. On the other hand, in some cases the cyst had been known to be present for many years before treatment was sought.

Enlarged superficial abdominal veins were not noted in any case except my own. This point and its explanation have already been referred to. Considerable hæmorrhage from the bowel occurred in one case, but hæmorrhoids were not specially stated to be present.

Probable course and complications.—Progressive increase in size, often at a rapid rate, is to be confidently expected in these cases. If neglected no doubt the patient will die in the same way as a case of ovarian cyst. Destruction of liver tissue in a large intrahepatic cyst will no doubt hasten the end.

I can find no account of the occurrence of spontaneous or traumatic rupture of a simple liver cyst, but it is of course a possibility. Torsion might conceivably occur in a very much pedunculated cyst, but, as a rule, the pedicle is too thick and short. Kilvington[56] refers to a case of fatal hæmorrhage into a non-parasitic liver cyst under the care of Allen, but otherwise there is no record of this accident. Kilvington observes, however, that minute hæmorrhages are frequent even in small cysts. Suppuration may quite conceivably occur, although no reference to it is made in the literature. Some cases of liver abscess may be suppurating cysts. Suppuration had occurred in one of the cases of general cystic disease reported by Moschcowitz.

Prognosis.—I think we may agree with Hofmann[57] that, if operable, the prognosis of non-parasitic cysts of the liver is not unfavourable. That of general cystic disease is, of course, very bad, especially if associated with cystic kidneys. It must be remembered, however, that in many of the cases reported in which a single cyst was believed to be present operation has disclosed the fact that multiple cysts, or even general cystic disease, sometimes with cystic disease of the kidneys, has been present. Moreover, fresh cysts may develop after one has been cured by operative measures, as in the case recorded by Bird.[58]

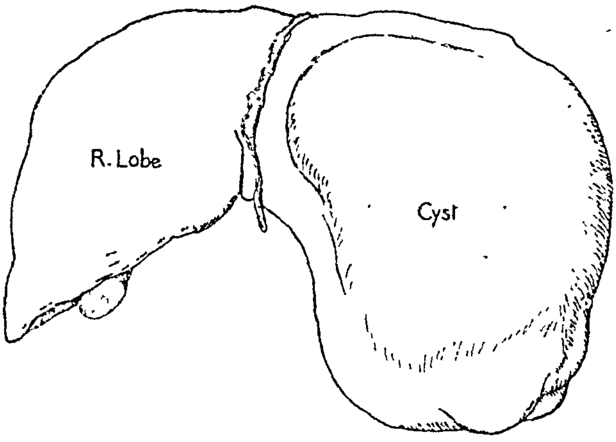
Treatment.—Operative treatment is indicated in all cases of apparently solitary cyst of the liver, and even when multiple cysts have been present considerable relief has been afforded by treatment of any large cyst or cysts. The exact procedure will depend upon the condition found on opening the abdomen. Bland-Sutton[59] urges that resection should be performed, and whenever possible this is the operation of choice. A wedge of liver at the base of the cyst is excised, and it may be possible to bring the surfaces together by suture. Where the cyst is at all pedunculated this is readily done, but when the cyst invades the substance of the liver to a large extent this would be a formidable proceeding, and in some cases impossible. No doubt individual surgeons would differ in their practice in border-line cases. An additional argument in favour of resection with the neighbouring hepatic tissue is that potential cysts would also be removed and recurrence of the trouble prevented.

Partial resection of the sac with suturing of the stump to the edges of the parietal incision has been done in several cases with satisfactory results. No doubt the smaller cavity so produced would close sooner than if the whole cyst were drained. This procedure, however, could only be done in certain cases, and when the cyst is almost entirely intrahepatic, incision and drainage is the only method to be adopted. The resulting cavity may take months to close. It is difficult to avoid infection in cases where prolonged drainage is carried out.

Kilvington[60] warns against the use of the curette, and no doubt the resulting hæmorrhage may be dangerous. The same writer suggests that a simple cyst should be dropped back into the abdomen when emptied, unless bile or calcareous plates are present. Presumably refilling of the cyst would be more likely to occur after this procedure than if drainage is adopted.

Simple puncture should not be performed. Although it has sometimes met with success it has often been fatal. Of the cases collected together in this paper, and in which surgical treatment was adopted, recovery occurred in 23.

FIG. 5.



Von Haberer's case of non-parasitic cyst of the left lobe of the liver. The whole of the left lobe was successfully resected.

Fig. 5 shows the condition of the liver in Von Haberer's case, in which the whole left lobe of the liver was successfully resected.

Postscript.—Since this paper was written a later edition of Dr. Rolleston's work on Diseases of the Liver has been published. In reference to Moschcowitz's view, to which reference has been made in this paper, Dr. Rolleston does not consider the structures described by him are aberrant bile-ducts, but the microscopic cysts of a cystic liver. Dr. Rolleston thinks that general cystic disease of the liver is quite possibly due to some special form of fœtal cholangitis and pericholangitis, causing obstruction to the bile-ducts. This practically coincides with Förster's theory, which has been referred to above.

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New Cavendish-street W.

NOTES ON

THE PATHOLOGY OF TUBERCULOSIS IN INFANCY AND CHILDHOOD.

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IN the post-mortem room the evidence as to the nature of tuberculosis in young children does not always agree with the views sometimes put forward. It is noticeable that the disease often affects the lymph nodes of the abdomen and thorax, and is in many instances limited to these nodes. Such disease may exist and not be suspected during life. However, there is danger of making too much of the lymph-gland disease and in that way of overlooking the fact that chronic pulmonary tuberculosis, with or without cavitation, is by no means rare in young children. An analysis of the post-mortem records made during the last six years at the Manchester Children's Hospital, Pendlebury, shows the nature of tuberculosis in children of the class admitted to hospital wards. Both medical and surgical cases are included. The cases are selected in the sense that they were thought suitable for in-patient treatment and that they died. Further, 76 per cent. of the cases showing tuberculous lesions at the post-mortem examination had actually died from the tuberculous affection, and in the remaining 24 per cent. the tuberculous lesion was either unimportant or was not the cause of the fatal illness. These facts are pointed out in order to show that the figures to be given later do not refer to tuberculosis in children in general.

General figures.—During a period of six years—March, 1906, to February, 1912—there were 962 deaths, of which 242, or 25 per cent., were clinically tuberculous, and 323 necropsies, of which 150, or 46 per cent., showed macroscopic evidence of tuberculosis. Of the 150 cases, 89 per cent. showed glandular tuberculosis, 17 per cent. showed glandular tuberculosis alone, 54 per cent. showed pulmonary tuberculosis, 14 per cent. pulmonary tuberculosis alone, 49 per cent. intestinal and peritoneal tuberculosis, 12 per cent. peritoneal tuberculosis with no intestinal disease, 3 per cent. tuberculosis limited to the intestine and abdominal glands, and at least 44 per cent. marked general tuberculosis. The evidence from the post-mortem examination can be conveniently divided into four main headings: (1) glandular tuberculosis; (2) pulmonary tuberculosis; (3) meningeal tuberculosis; and (4) tuberculous mediastino-pericarditis.

1. *Glandular tuberculosis.*—In only 16 of the 150 cases (11 per cent.) showing tuberculosis were the lymph nodes free from that disease. Probably this percentage would have been lower if the glands had been tested microscopically or by inoculation. The glands most commonly affected are the bronchial in the thorax and the mesenteric in the abdomen. In comparison the mediastinal and retro-peritoneal are rarely affected. The abdominal glands were more often affected than the thoracic, and it is curious that most other observers have found the reverse to be the case. Thus Rillet and Barthez made the ratio of thoracic to abdominal 79 to 46; Guthrie 54·5 to 24·6; Still 81 to 59; Shennan 62·9 to 48·7; whilst our ratio works out at 55 to 71. This is interesting because there is little doubt that abdominal tuberculosis is more common in some localities than in others. However, it is not justifiable to base any general conclusion on this fact without further evidence, because the cases were in-patients who may have been selected for admission since they were abdominal in nature.

Of the 107 cases showing tuberculosis of the abdominal glands: (1) 32 per cent. showed no intestinal disease; (2) 29 per cent. showed neither intestinal nor peritoneal disease; (3) 16 per cent. showed abdominal glandular affection with no other tuberculosis at all; (4) 48 per cent. showed both lung and intestinal disease; (5) 10 per cent showed lung disease with no intestinal ulceration; and (6) 10 per cent. showed intestinal disease without lung affection. In 30 per cent. of the 150 cases the disease seemed to have been primarily abdominal. In this connexion it must, however, be pointed out that infection by the digestive tract includes the swallowing of dirt, dust, and dried sputa, and is therefore not by any means limited to infection with the bovine type of bacillus nor to milk infection.

Of 83 cases showing tuberculosis of the thoracic glands 60 had also lung disease and 23 had none. Thus in 28 per cent. there was thoracic glandular tuberculosis without accompanying lung disease. In those cases in which the disease was limited to the thorax 18 showed lung tuberculosis and 4 none. Therefore in 4 cases there was tuberculosis of the thoracic glands and no evident tuberculosis elsewhere in the body.

In 26 of the 150 cases (17 per cent.) the glands were the only parts affected. In 17 the disease was confined to the abdominal glands; in 4 to the thoracic, and in 5 it affected both groups

The above figures show that disease of either group of glands may occur without lesion of the area drained by them. This occurred in 28 per cent. of the cases with thoracic glands, and 32 per cent. with abdominal glands affected. From the fact that in 28 per cent. of the cases with thoracic glandular disease and 32 per cent. of those with abdominal glandular disease there was no affection of the areas drained by those glands, it appears probable that the disease may spread from the abdominal to the thoracic glands and *vice versâ*. It must be pointed out, however, that tubercle bacilli may pass through a healthy or a slightly damaged mucous membrane without leaving any trace of their entry and yet infect the lymph nodes. Also we must not overlook the spread of tuberculosis by the blood stream in children, in whom generalised tuberculosis is so common.

2. *Pulmonary tuberculosis.*—In many of the cases with cavitation even in those under two years of age the cavities were at the apex, were definitely of a chronic nature, and had evidently been present before other and more wide-spread disease that was often evident. The subjoined table shows that 3 of the infants under two years, and in all 11 of the children had apical cavities.

Chronic Pulmonary Tuberculosis.

(a) With cavitation.

Site.	Age-period. 0–2	2–5	5–10	10–14	Total.
Apex	3	2	2	4	11
Upper lobe	—	3	2	1	6
Middle ,,	—	1	—	—	1
Lower ,,	1	—	—	—	1
Upper and lower lobes	2	2	1	—	5
Middle and lower lobes	1	—	—	—	1
					25

(b) Without cavitation.

Site.	0–2	2–5	5–10	10–14	Total.
Apex	—	3	4	—	7
Upper lobe	1	—	—	—	1
Upper and lower lobe	—	1	1	2	4
					12

Chronic Tuberculosis together with Acute Pneumonic Condition.

Site.	0–2	2–5	5–10	10–14	Total.
Acute broncho-pneumonia	4	3	2	2	11
Acute miliary	1	3	1	2	7
					18

Acute Pulmonary Tuberculosis without Chronic Lesions.

Site.	0–2	2–5	5–10	10–14	Total.
Broncho-pneumonia	9	7	5	2	23
Miliary	1	2	2	3	8
					31

In five of these cases the broncho-pneumonic consolidation was evidently due to a direct spread from a caseous bronchial the symptoms indicated. Throughout the afebrile period tuberculin Beraneck was administered in small doses, none being above 0·8 c.c. of No. 6 dilution. It never produced a reaction, and certainly, coupled with other attendant factors, gave the impression that it helped to increase the resistance of the patients and enabled them against big odds to fight their way to the satisfactory recovery they have made.

THE TECHNIQUE OF EXCISION OF CERVICAL RIBS.

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The patient, a female aged 33, was admitted to the Maida Vale Hospital under the care of Dr. Wilfred Harris in January, 1912, with the following history. Her symptoms began more than three years ago with pain in the right shoulder, which she had for two years before she sought medical advice. The pain was worse on exertion. She also had "pins and needles" sensations in the ulnar side of the right forearm and hand, but the distal symptoms were slight compared with the pain in the shoulder. She was first treated by hot-air baths and electricity for "neuritis," and while having this treatment she developed pain in the neck, which was very much worse than the original pain in the shoulder. She was then sent to a hospital, where an operation was performed for cervical rib in June, 1910 (18 months before I saw her). A transverse incision was made very low down on the right side of the neck; the rib was not removed, but "a small spike of bone was chipped off from somewhere"—presumably the tip of the rib. Her symptoms were aggravated by this procedure. On admission to the Maida Vale Hospital 18 months later she had continual pain in the right side of the neck and over the right shoulder. The extremity of the cervical rib was palpable and very tender. There was no wasting of the hand muscles. The skiagram showed a well-marked cervical rib on each side, but there were no symptoms referable to the left. On Jan. 8th, 1912, I removed the right cervical rib through a *posterior* incision.

Operation.—An incision about 4 inches long was made parallel to, and about an inch from, the spinous processes, with its centre opposite the seventh cervical vertebra. The trapezius was divided in the same line and drawn outwards so as to expose the deep muscles at the back of the neck. The outer margin of these deep spinal muscles then led straight to the transverse processes, and so to the cervical rib at its origin from the seventh cervical vertebra. The rib was divided at once close to the vertebra, and, being then *movable*, it was dissected out from the soft parts with the greatest ease. The trapezius was sutured with catgut, and its limited division gave rise to no subsequent weakness or other disability. There was practically no bleeding, and the wound was closed without drainage. The patient was relieved of all her symptoms and has since remained perfectly well.

As regards ease, rapidity, and *safety*, this operation compares very favourably with those that are usually performed for cervical ribs. Two operations are in common use: (1) the traditional operation through an incision on the front of the neck just above the clavicle; and (2) that through an incision at the side of the neck. The first of these was originally an exploratory operation. But nowadays cervical ribs are always diagnosed with certainty, by X rays, before operation. A cervical rib is a process of bone attached to the spine (seventh cervical vertebra), and the aim of the operation is to get at its vertebral attachment to divide it. It seems strange, therefore, that one should elect to approach it through an incision on the front of the neck, about as far away from the spine as possible. In operating from the front, one has to traverse nearly the whole thickness of the neck in order to reach the spine, and the field of operation is surrounded by important structures which cannot be retracted with impunity.

In both the anterior and the lateral operations the rib is immovably fixed, behind, up to the very last stage of the dissection. Consequently, all the soft parts have to be separated and drawn away *from* the rib before it can be resected. This manipulation and retraction of important parts are responsible for nearly all of the unfavourable sequelæ which may follow these operations. The difficulties and dangers, and therefore the accidents and failures, of operations on cervical ribs are due almost entirely to a technique which necessitates manipulation and retraction of the surrounding parts from a rigid *immovable* structure.

The great feature of the posterior operation is the early mobilisation of the rib. In this operation the rib is divided at the very beginning of the deep dissection; all preexisting tension on the soft parts is at once relieved; and, as the rib is now freely movable, it is dissected *from* the soft parts with the greatest ease, and without risk of injury *to any important structure. By displacing* the rib the manipulation of other parts is reduced to the minimum. As the rib is divided close to the vertebra in full view of the operator, there is no fear of its removal being incomplete. The limited division of the trapezius close to its origin from the spinous processes gives rise to no subsequent disability if it is sutured at the end of the operation, and the incision is too far back to interfere with its nerve supply or with that of the rhomboids. In this operation the rib is approached by the shortest possible route, and the dissection is then directed solely to the structure to be removed.

The case was shown at a meeting of the Clinical Section of the Royal Society of Medicine on Feb. 14th, 1913.

Devonshire-street, W.

CASE OF

EPITHELIOMA OF THE AURICLE AND CERVICAL GLANDS; REMOVAL OF AURICLE AND GLANDS.

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The patient was a man aged 61. He said that his right ear had been injured six months previously by a piece of wood striking it. The outer aspect of the auricle presented an indurated non-ulcerated area, raised above the surface and of about the size of a shilling. It was *situated above* and behind the orifice of the meatus, but did not actually encroach upon it. Under the microscope the growth showed the structure of a typical epithelioma. The glands in the upper part of the right anterior triangle were definitely enlarged, and a very considerable mass lay high up underneath the sterno-mastoid.

An operation was performed in May, 1912. The auricle, together with the skin and soft structures over the mastoid and the membrano-cartilaginous part of the meatus, was removed in one mass. It was thought there might be trouble with the jugular vein where it was overlaid by enlarged glands close up to its exit from the skull, so I determined to expose the lateral sinus and temporarily occlude its lumen. This was done in the usual way by removing a considerable portion of bone with hammer and chisel. Ribbon gauze was then packed between it and the skull wall. In this way the blood flowing into the jugular vein from the cranial cavity was all but cut off. From the lower limit of the wound left by removal of the auricle an incision was made along the whole length of the anterior border of the sterno-mastoid. The internal jugular vein was now exposed low down in the neck and divided between ligatures. A large portion of the sterno-mastoid was removed, and this, together with the glands, fascia, and jugular vein, was dissected from the carotid artery and other structures in an upward and forward *direction. The* common facial vein was early secured. The glands were intimately adherent to the jugular vein almost up to its emergence from the foramen. The vein was ligatured and divided close up to the base of the skull. The spinal accessory nerve ran through the glandular mass and had to be sacrificed. It was also found necessary to remove a portion of the parotid gland, which necessitated cutting some twigs of the facial. Since there were shotty glands low down in the neck in the region of the upper part of the brachial plexus, a dissection of this region was made, and the fascia and glands removed. The wound was drained through a separate posterior opening. The neck healed by first intention. There was a large cavity in the region of the ear which rapidly filled with granulations, and afterwards a skin graft was applied. The patient had facial paralysis for some time, but that has now nearly recovered. The external auditory meatus has been kept as patent as possible by a piece of rubber tubing.

Mr. S. Gilbert Scott, of the London Hospital, has very kindly made numerous applications of X rays as a prophylactic measure. The patient has had two courses of treatment. The dosage and thickness of the aluminium filter have been varied to allow the rays to act both on the deeper and more superficial structures. An interval of a week has elapsed between each administration. So far there is no recurrence. Only 11 months have elapsed since the operation and it is therefore too early to judge as to the ultimate result.

Points of special interest in the case are: 1. Such extensive glandular involvement occurring in association with a comparatively limited growth on the auricle; cancer of the auricle usually shows signs of fairly marked local spread before the glands are much involved. 2. The history of a local injury six months previously is of some interest. 3. I should especially like to lay emphasis on the preliminary occlusion of the lateral sinus practised in this case. This method I have not seen described, and I intend to employ it again in connexion with removal of enlarged glands in cases of malignant disease of the pharynx, tonsil, &c. In these cases it is all important that a thorough clearance of lymphatic structures right up to the base of the skull be carried out, and this is no easy matter if enlarged glands lie along the upper course of the jugular vein. The preliminary exposure of the sinus need not take more than from 5 to 10 minutes.

A skin incision similar to that employed in the mastoid operation, or one with its convexity forward is made over the mastoid process. The periosteum is separated from the upper part of the process and an opening made in the skull three-quarters of an inch behind the centre of the external auditory meatus. This will be effected more easily, I think, with the hammer and chisel than with the trephine. The chisel must be applied obliquely to avoid injury to the wall of the vein. Once the sinus is exposed the opening is enlarged in a backward and upward direction to allow the gauze packing being inserted. In exposing the sinus its varying position must be kept in mind, and also that it may be overlaid by dense or cellular bone. It will, as a rule, be unnecessary to open the mastoid antrum. If the incision over the mastoid be made one with that in the neck the structures in the region of the digastric fossa will be more easy of access. In most cases, after removing the tampon, the soft tissues would be allowed to fall over the cavity and sutured in position. The time spent in this little introductory operation will be amply repaid when one comes to deal with the upper part of the internal jugular, for one can then proceed with confidence, knowing that a nick or tear in the vein will not mean flooding of the wound with venous blood. This is a most disconcerting accident and might easily occur in cases where the vein is adherent to enlarged and indurated glands. Much time may be wasted, and infected tissues unnecessarily cut into, in trying to dissect the glands off the vein. It is better practice to clear away the glands and vein together, and if necessary cut the latter across before applying a ligature. The risk of placing a tampon on the lateral sinus is practically *nil*. I have heard of the jugular vein being torn or injured close up to its exit from the skull. In such a case, after stopping the hæmorrhage temporarily with firm packing, the sinus might be exposed, occluded, and the operation in the neck proceeded with.

If this method were used in combination with a clamp on the carotid, as carried out by Crile, the field of operation could be rendered practically bloodless.

Brook-street, W.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Clinical Cases and Pathological Specimens.

A MEETING of this section was held on March 28th, Dr. J. WALTER CARR, Vice-President, being in the chair.

Dr. FREDERICK LANGMEAD showed: 1. A case of Tremor (? Congenital). The patient, a girl aged 10 years, had definite tremor of both upper limbs, moderate in amplitude. It interfered somewhat with school work, but otherwise caused no discomfort. It had been noticed particularly during the last two to three years, but probably dated from infancy. There were no signs of organic nervous disease. 2. A case of "Nervous Cretinism." The patient was a boy, aged 10 years. He was an undersized and mentally deficient child who first attended the Hospital for Sick Children, Great Ormond-street, when 7½ years old, and then exhibited the usual signs of cretinism to a moderate degree. He could not sit alone, stand, or talk, and was "dirty in his habits." His appearance was characteristic. Under thyroid treatment he had improved considerably in his general condition and could walk, although badly, and became clean in his habits. His vocabulary was still very limited and pronunciation imperfect, only a few simple words being used and these in a monotone. He had lost most of the aspect of cretinism. The feature of special interest was a coexisting cerebral diplegia affecting chiefly the legs. These were stiff, adducted, and their deep reflexes were exaggerated. The plantar response was sometimes definitely extensor. The arms were little, if at all, affected; the triceps jerks were brisk and (?) slight rigidity was present. He stood in the knock-kneed position, with feet abducted, and walked with [illegible] progression. The thyroid [illegible] that he had called the [illegible] jor Robert McCarrison, I.M.S., who had described the association of cretinism with spastic paralysis in his study of endemic cretinism in the valleys of Chitral and Gilgit in India. That writer regarded the paralysis as part of thyroidal inadequacy, and had obtained some success with thyroid therapy in such cases. 3. A case of Defective Ossification of the Skull in a boy. There was marked pulsation over the posterior end of the interparieta [illegible] cerebral in origin and transm [illegible]

Dr. F. G. [illegible] A. BOYD showed a case of Congenital Thoracic Deformity. The patient, a boy aged 6½ years, was the subject of congenital thoracic deformity affecting the right side. There was a large depression in the upper part of the front of the chest, and an oval gap could be made out in the bony parietes, measuring 4 inches in its long diameter (which passed obliquely downwards and forwards from the axilla) and 3 inches transversely. The defect was apparently due to absence of the anterior portions of the second, third, and fourth ribs. The fourth rib appeared to join the fifth. The sternum was asymmetrical, and the right upper costal cartilages, which were attached to the sternum, were bent backwards. There was a marked hernia of the right lung. The clavicle and scapula were smaller on the right side than on the left. There was scoliosis of the dorsal vertebræ, convex to the right. The pectoralis major was fairly well developed, but was not so large as on the left. The pectoralis minor and the upper part of the serratus magnus were apparently absent. There was some depression of the corresponding area of the left side of the chest, but no bony defect. The exhibitors said that the condition appeared to fall within the category described by Dr. J. Thomson in "Teratologia" (January, 1895) as "congenital thoracic deformity." As in Dr. Thomson's cases, if the arm were flexed at the elbow and the hand placed on the front of the opposite shoulder, the deformed area was found to be almost exactly covered by the upper arm. So far, then, Dr. Thomson's suggestion, that this kind of deformity was due to intra-uterine malposition, was supported.

Mr. A. S. **BLUNDELL BANKART** showed a case of Achondroplasia. The patient was a girl aged 7 years. The parents were first cousins. The condition was first noticed in infancy. The child had been treated for rickets when 16 months old, and the treatment had been continued for three years without effect. She was stunted in growth. The head was normal, not rickety. The teeth were good, dentition not being delayed. The chest was narrow, the sternum being prominent (pigeon-breasted) Very slight beading of the ribs was present, and a well-marked horizontal sulcus traversed the lower part of the chest. Lordosis existed. Upper extremities: great enlargement of epiphyses; skiagrams showed marked irregularity and "cupping" of epiphyseal lines; diaphyses stunted. Extreme laxity of wrist-joints was present, yet she had a good grip and could use the hands well. There was looseness of the elbows; the head of the radius on each side could be dislocated and replaced with ease. The lower limbs were very slightly affected, the epiphyses being hardly, if at all, enlarged; the diaphyses were not stunted. There was slight genu valgum which had improved by treatment.

Mr. **LIONEL E. C. NORBURY** showed a case of Circumscribed Serous Meningitis. The patient was a male child, aged 13 months, admitted to the Belgrave Hospital on August 6th, 1912. There was a history of convulsions 15 days previously, followed by right facial paresis and tremor of the right hand. No history of trauma was obtained. An abscess on the left side of the neck had been incised two months before admission, and discharge from the right ear occurred at the same time. On admission he was seen to be a well-nourished but very pale child. There was a fine, regular tremor affecting the right arm and hand, right leg, right side of mouth, and also the tongue and lower jaw. Right facial paresis and slight convergent strabismus were present. The knee-jerks were present and equal, not exaggerated. The abdominal reflexes were present. Lumbar puncture failed to withdraw fluid. No changes were seen in either fundus oculi. At an operation the left parietal bone was trephined over the centre of the Rolandic area, and the opening in the bone enlarged so as to freely expose this area. The dura was incised crucially and the pia-arachnoid found to be very swollen and œdematous. The pulsation was feeble. The tremor gradually disappeared, first from the leg and then from the arm and face. The wound healed by first intention. Cerebrospinal fluid collected under the scalp-flap and was evacuated every few days (five times in all) until it ceased. Nine days after the operation there was no sign of tremor. The patient was seen on March 20th, 1913, when the general condition was found to be very good. A very slight facial weakness remained. In the region of the craniotomy wound there was a moderate degree of bulging.

Dr. **R. C. JEWESBURY** showed a case of Acute Poliomyelitis affecting the Muscles of both Hands. The patient, aged 12 years, had an attack of "influenza" six months ago, being very feverish for two days; she then became very weak in the right arm, and to a less extent in her back and right leg. She showed marked wasting of the muscles of both hands and also wasting of the muscles of the right arm and shoulder. The triceps was the muscle most affected in the arm.

Dr. **F. PARKES WEBER** showed a case of Congenital Eversion of the Great Toes and other Abnormalities. The patient was a healthy-looking female baby aged 7½ months Both great toes were everted and overlapped by the other toes, and the deformity thus produced suggested at first sight the eversion of the great toes not rarely met with in elderly persons, often associated with ulnar deflexion of the fingers and often wrongly ascribed to the wearing of badly shaped boots or shoes. Both the child's thumbs were turned inwards across the palms, and there was also an abnormal projection on the left side of the neck. The patient, who seemed otherwise quite normal, was the only child of healthy parents both young. There was no history of any similar malformation in any other members of either the mother's or the father's family, nor was there any definite history of "maternal impression."

Dr. **LEONARD G. PARSONS** showed Sections from a Case of Progressive Muscular Atrophy (Werdnig-Hoffmann Type) in a male child aged 3 years. He had been normal until aged 10 months, when progressive wasting began. This was first observed in the shoulder muscles and the upper part of the thigh. Ability to hold the head erect was lost in the third year. On admission to hospital the cranial nerves were normal. There was almost complete flaccid paralysis of the shoulder-girdle muscles, double wrist-drop, and supination was impossible. Movements of the fingers was possible but feeble. The lower limbs showed wasting, chiefly above the knees, and contractures, the only movements possible being flexion and extension of the ankles and toes. The abdominal and intercostal muscles were paralysed. He was unable to sit up alone or hold the head erect. Scoliosis was present in the lower dorsal and lumbar regions. Knee-, ankle-, and arm-jerks, and abdominal reflexes were absent. There was no sensory change. The cerebro-spinal fluid was normal. There were marked diminution of electrical excitability and slight reactions of degeneration. Death was due to broncho-pneumonia. *Post mortem.*—Subcutaneous fat was present in fair amount and masked some of the muscular atrophy. The affected muscles were very pale and atrophic, the diaphragm by contrast being a good colour. The muscles showed fibrosis. Some of the muscle fibres were larger than normal and had a rounded contour; the majority of the altered fibres were smaller than normal (0·01 mm. and less), and some were on the point of complete atrophy. The small fibres showed an enormous increase in the number of nuclei. Striation was well preserved and muscle spindles were normal. Many fibres showed fatty degeneration. The anterior nerve roots were smaller than normal and showed overgrowth of fibrous tissue. Nissl sections of the cord showed a striking diminution in the number of cells in the anterior horn, about one-third the normal number being present. The cells were also smaller than normal and their processes less marked. Some showed a degree of chromatolysis. Marchi sections showed no change.

Dr. **PARSONS** also showed specimens of Diffuse Sarcomatosis of the Brain and Spinal Cord. They were from a child aged 2 years. Symptoms started four months before death. The initial symptoms were headache and violent screaming attacks with gradually failing vision, and at the end of three months the child was blind. Walking was normal until 14 days before death. Hearing, speech, and intelligence were normal until the onset of the final pressure signs, which commenced 10 days before death. At the post-mortem examination the cord was found to be ensheathed throughout its length by growth, which also invaded its posterior aspect. The growth extended on to the nerve-roots and there were many growths on the cauda equina. It extended outside the spinal canal along the root of the lumbar plexus The Gasserian ganglion and the ganglia of the ninth and tenth cranial nerves were much enlarged, and the seventh and eighth nerves were thickened by an extension of the growth. Multiple small growths were present over the base of the brain arising from the pia-arachnoid. Hydrocephalus was marked. The primary growth was in the cerebellum, and had invaded, distended, and completely filled the fourth ventricle; it had also blocked the iter, and then was continued as a filmy gelatinous covering over the ependyma of the third ventricle. Microscopically, the growth was a mixed-celled (chiefly small-celled) sarcoma, and its method of spread was due to "infection" of the cerebro-spinal fluid.

Mr **SEYMOUR G. BARLING** showed a Hair-ball removed from the Stomach of a child. The specimen consisted of a felted mass of hair and string, and presented an exact cast of the stomach, showing the pyloric canal, pyloric antrum, and fundus. It was removed from a female child aged 7, of normal intelligence, who for some days before operation had suffered from pain in the upper abdomen and vomiting. On examination a tumour exactly resembling the shape of the stomach presented itself in the epigastrium and moved up and down on respiration. The shape of the tumour, together with a history of hair biting, extending over several years, and the occasional passage of string, tape, &c., in the motions, led to a direct diagnosis by Lieutenant J. L. Ritchie, R.A.M.C., by whom the case was first seen. On gastrotomy being performed, the specimen was easily removed and the patient made a satisfactory recovery.

HUNTERIAN SOCIETY.

The Uses of Tuberculin.

A MEETING of this society was held on March 26th at St. Bartholomew's Hospital (Library).

Dr. ARTHUR LATHAM opened a discussion on the Uses of Tuberculin with an interesting general survey of the subject. He gave reasons why tuberculin could not be relied on without corroborative evidence in the diagnosis of tuberculosis. The von Pirquet reaction was seldom of service in this direction after the age of 7, but the intensity of the reaction was of service in estimating the dosage and spacing of doses in a course of tuberculin, and the absence of reaction was of some value in excluding tuberculosis. The value of a reaction after hypodermic injection of old tuberculin was also subject to limitations. The important thing was a focal reaction, provided that this was supported by other evidence. Dr. Latham described the class of case in which it was inadvisable to use tuberculin as a diagnostic, and gave his reasons. As to the value of treatment by tuberculin in pulmonary tuberculosis Dr. Latham gave his own impressions, together with the evidence of German and American observers, and especially called attention to the fact that with the use of tuberculin at the King Edward VII. Sanatorium the number of patients who lost their tubercle bacilli had been increased by 17 per cent over what was obtained merely by sanatorium treatment. The value of tuberculin and the methods of administering it in the various manifestations of tuberculosis, such as pleurisy, peritonitis, lupus, and disease of the glands, joints, and bones, were discussed. It was pointed out that if the real nature of pleurisy in early adolescence was recognised and the case properly treated by sanatorium methods and tuberculin therapy probably a considerable number of cases of pulmonary tuberculosis could be avoided. As to the particular form of tuberculin to use, results showed that this was of no great importance; the chief thing was for the observer to know the value and the limitations of the particular brands he used. Dr. Latham drew attention to the value of the new tuberculin in febrile conditions or cases in which autoinoculation readily occurred, and said that in many chronic cases sensitised B.E. was preferable to the ordinary bacillary emulsion. He had never been convinced of the truth of the statement that bovine prepara-
tion and human in examples
result of scientific examina-
roportion of surgical tuberculosis was due to infection from human sources, yet the upholders of cross vaccination treated all cases of this form of the disease with human preparations. The fact that great improvement followed in many of these cases showed that cross vaccination was not essential.

Dr. G. A. CRACE-CALVERT first wished to emphasise what Dr. Latham had said about pleurisy. It should never be treated as of no importance, as more often than not it was followed sooner or later by definite disease. Sanatorium and tuberculin treatment were complementary, the latter providing stimuli to the production of antibodies, and the former the necessary powers of response. The majority of patients proved suitable for the administration of tuberculin if they were carefully watched first and then given very small doses to begin with. He always used the bacillary emulsion, as it nearly corresponded to an ordinary vaccine, was more slowly absorbed, and therefore made a greater and more lasting production of antibodies. He used the intensive system, as he thought that it increased the tolerance and abolished the sensitiveness. When one always used the same site for the injections it sometimes became difficult to inject the dose—apparently owing to the inflammatory condition produced, and when this was the case a general reaction was particularly liable to occur. Even if tuberculin did aid in the production of cavities it was often a good thing, as he considered it preferable to have simply a ring of scar tissue round an empty cavity than a mass of dead tissue containing virulent or living bacilli, and he did not think that this cavity formation made more liability to hæmorrhage, as the focal reaction tended rather to the obliteration of the blood-vessels. Patients treated with tuberculin certainly lost the bacilli from their sputum more readily than those not treated, and so the tendency to relapse was greatly reduced.

Dr. J. W. LINNELL found himself opposed to a careless and indiscriminate use of the subcutaneous test for the following reasons: (*a*) The danger of lighting up quiescent disease; (*b*) the increase of sensitiveness to tuberculin often caused, leading to difficulties in treatment later; (*c*) the fact that even should a focal reaction result there was often nothing to show whether the focus was active or quiescent. In cases of suspected pulmonary tuberculosis the same evidence could be obtained without danger by using tuberculin in therapeutic doses. All the tuberculins were, he thought, broadly speaking, the same tuberculin and the important factor might well be the amount of autogenous tuberculin washed out into the circulation by the focal reaction. He objected to the wilful causation of reactions and wa
of the gentle, gradual method
e type of case suitable for tubercul
was the resistance of the individual. In the treatment of early cases, especially where there was any suspicion of activity, recourse should not be had to tuberculin till after a course of absolute rest and other sanatorium methods. If the symptoms subsided, tuberculin should then be started cautiously. The maximum dose differed with the individual, and there was no point in striving to attain to any particular dose of any particular brand of tuberculin. The following points should be noted as the results of treatment: (*a*) The fact that nothing dramatic occurred, tuberculin merely imitating the natural processes of self-healing; and (*b*) the fact that nothing like complete immunity was conferred by tuberculin. Tuberculin, he added, was of great use in suitable cases, if sanely administered, but should never be looked upon as a substitute for other forms of treatment, while sanatoriums were indispensable adjuncts in any efficient dispensary system.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Nephrectomy.—Location of Pus in the Hand.

A MEETING of this section was held on Feb. 21st, Mr. R. D. PUREFOY, the President, being in the chair.

Mr. C. ARTHUR BALL read a paper on Nephrectomy. He pointed out that the improved methods of diagnosis had greatly reduced the mortality, but there still remained a risk attached to nephrectomy which was probably greater than that of any other major operation—the danger of hæmorrhage. He stated that enough attention was not attached to this danger in the teaching of the subject, and expressed the opinion that the kidney could be more readily reached from the front by an iliac extraperitoneal incision, like that recommended for exposing the lower part of the ureter. This incision could then be extended upwards and backwards in the direction of the external oblique fibres if more room was needed. He stated that this was the incision he always employed, and pointed out that by it the vessels of the pedicle could be readily exposed, and any abnormal vessels could be easily seen and dealt with more safely and easily than by the lumbar incision. In his opinion lumbar nephrectomy should be classed with lumbar colotomy and given up.—Mr. R. C. B. MAUNSELL said that when a student he had seen cases of death from hæmorrhage, but he never had a case himself, and this he attributed to the fact that where he found a kidney very adherent and matted from chronic disease he adopted subcapsular nephrectomy. When the kidney was very adherent he thought it was useless to try and get it out by any other method.—Sir JOHN LENTAIGNE considered that the efficiency of the other kidney was the most important point to look into, and it was always the one that he weighed before operating on a kidney. The fear that the

urine tell. At one time it was thought that by diverting the urine from each ureter into separate channels one could tell whether the other kidney was functioning or not. Ureter catheterisation was the only reliable test, but unfortunately this was a procedure which could not always be easily carried out. Even the most expert men had found it impossible to use a ureter catheter in every case. A procedure which he found efficient was a double incision. By cutting down on both kidneys and palpating one was able to tell whether the kidney and ureter on the opposite side were all right, and the patient appeared to be nothing the worse.—Mr. KENNEDY considered it a very sweeping thing to condemn the lumbar operation, as by combining the incision at right angles with lumbar incision the largest kidney could be taken out. He referred to the use of a clamp for preventing hæmorrhage. If the pedicle of the kidney was taken up and clamped before the vessels were isolated the latter could afterwards be taken up and tied individually. It was, he said, astonishing the amount of room provided by the freeing of the last rib.—Mr. PEARSON said he had seen two or three nephrectomies by the incision described, and to his mind it was the ideal procedure. The ease with which the operator could see what he was doing was very remarkable. —Mr. H. STOKES said that the practice of a surgeon who had performed 40 nephrectomies without a single death was not to tie himself to any particular incision.—Mr. BALL, in reply, said he generally started by laying the patient on the back, inclining the body a little to one side. He usually started with a small incision of about four or five inches, and if there was not room enough he extended it higher up. His object was not so much to try and convert those who had performed lumbar nephrectomy satisfactorily as to show that if students were taught that this anterior incision was a much safer method it would be an advantage.

Mr. A. A. MCCONNELL read a paper on the Location of Pus in the Hand. He pointed out that there were definite spaces in the hand independent of the tendon sheaths in which pus might collect, that the diagnosis of pus in these situations could be made, and that special incisions were required for adequate treatment. He adopted the nomenclature introduced by Kanavel, of Chicago, and in the main advocated the treatment employed by him. Clinical cases were cited, however, which went to prove that adequate drainage of the middle palmar space could be carried out by placing an incision behind the web of one or more of the fingers and introducing a drainage tube. This incision avoided the digital vessels and nerves, and proved as effective as Kanavel's palmar incision.—The PRESIDENT said that the fact that these injuries to the hand were so frequent, and might have such disastrous results if not well treated, invested the subject with the greatest importance.—Mr. L. GUNN said he had felt for a long time that in hospital practice septic fingers and hands were left very much to the residents and house surgeons, and that very disastrous results were often experienced where incisions were possibly made in wrong positions.—Mr. CRAWFORD said that a point of importance was that this method of making an incision of the web of the finger was a new one, and had only been performed by Mr. McConnell himself. He had only one case of the kind since he had learned the method, and in that case, although the whole hand was œdematous, he determined to try drainage through incision of the web of the little finger, and the result was very good, all the symptoms subsiding in three or four days.

SECTION OF OBSTETRICS.

Instrument for Minimising Risk of Septic Infection during Operations.—Exhibition of Specimens.—Uterine Rupture.—Gonorrhœal Vaginitis Treated by Vaccine.

A MEETING of this section was held on March 7th, Dr. HENRY JELLETT being in the chair.

Mr. J. SPENCER SHEILL exhibited an Instrument designed to Minimise the Risks of Septic Infection during certain Gynæcological Operations, and explained its working. In reply to Dr. Jellett he suggested that it would be found useful for the introduction of drainage after subtotal hysterectomy in cases where there was a suspicion of sepsis. —Dr. JELLETT said that personally he would be more inclined to drain through an opening in Douglas's pouch than through the cervix. He thought that the apparatus would be very suitable for this purpose.—Mr. SHEILL said that the object he had in designing the instrument was to avoid the necessity for pulling the probe back after the gauze drain had been introduced. In some cases posterior fornix drainage was not indicated; for instance, in uterine rupture cervical drainage would be indicated, and his instrument would, he considered, be the safest way to drain.

Dr. JELLETT exhibited specimens taken from two cases of Genital Tuberculosis. The first involved the tubes, uterus, and rectum. The patient was an 8-para, aged 58. She complained of hæmorrhage for five months, with pains in the lower abdomen, as a rule, before the hæmorrhage started. She was passing fæcal matter through the vagina. The disease was first thought to be malignant, but an examination of uterine scrapings showed it to be tubercular. On opening the abdomen the uterus was found to be studded with tubercle, and was adherent to the posterior pelvic wall. There was a tumour of the size of a hen's egg in relation to the rectal wall, and adjacent to the uterus. The rectum was resected without separating it from the uterus, which was removed at the same time. The reason for resecting the rectum was that it appeared to be involved in the tumour. On examination of the latter, however, it proved to be a mass of fat and of tubercular growth in the mesentery of the rectum. The lumen of the rectum was considerably reduced. The cavity inside the uterus contained some breaking-down tubercular material. An end-to-end anastomosis of the rectum was done, and held for 11 days, and then began to leak. In the second specimen there was tubercular disease of the tubes associated with carcinoma of the ovaries in a patient aged 32. Dr. Jellett invited opinion as to whether tubercular disease of the tubes was commonly accompanied by tubercular disease of the uterus, and got well after removal of the tubes. Some authors stated that this was usual, but he had previously never found tubercular disease of the uterus that did not eventually lead to serious complications.—Dr. E. HASTINGS TWEEDY said that he could only say that whether the uterus was or was not involved, he had known patients to get well after resection of tubes. While tubercular disease of the tubes was frequently seen, disease of the uterus was rarely met with.—Mr. SHEILL said that he had seen a good number of cases of disease of the tubes of tubercular origin, but only one case of definite tubercular disease of the uterus.—Dr. JELLETT, in reply, suggested, with a view to throwing further light on this important subject, that all operators should examine scrapings from the uterus in all cases of tubercular salpinx.

Mr. SHEILL then read clinical notes of Two Instructive Cases of Uterine Rupture, and these were discussed by Dr. TWEEDY, Dr. D. G. MADILL, and Dr. JELLETT.

Dr. GIBBON FITZGIBBON read a paper on Gonorrhœal Vaginitis treated by Vaccine. He recorded six cases treated by vaccine, five with good results; the sixth had appeared cured, but relapsed or else had been reinfected. He considered that vaccines to be effective should be made from cultures grown fresh from the human host, but that they need not be autogenous. Local treatment, in combination with vaccine, was advisable, and probably necessary—certainly in the chronic cases with mixed infection.—Mr. SHEILL said he considered the paper of extreme importance from the point of view of treatment of gonorrhœal infection in young children, as in such cases there were many difficulties in local treatment, and, therefore, if there was another means of treatment, it should be pushed. He did not think local treatment should be done away with, but he considered vaccines a very useful adjunct.—Dr. MADILL said he had tried many varieties of local treatment, and he thought the best results were produced by protargol. He was struck with the chronicity and difficulty of diagnosis in these cases. He pointed out that Bumm had described five kidney-shaped intracellular diplococci, one of which was Gram-positive, and the other four negative to this stain, and the only difference he knew between these was by culture. He thought gonococcus was very difficult to grow. He went on to describe the methods adopted at Wertheim's clinic for making this vaccine. No case was considered cured until the microscope failed to find anything of the nature of gonococcus in the secretions.—Dr. R. J. ROWLETTE pointed out the great difficulty in treating cases of gonorrhœa in the female owing to the ease with which the infection became mixed. He did not think that the gonococcus disappeared for a considerable time, but it became crowded out by other organisms, and was not easily found. In some cases of gonorrhœa in the male that came under his notice it was found necessary to treat with staphylococcus after treating with gonococcus vaccine. A point of importance was that the vaccine should be made from a fresh culture. This he considered of more importance than that the vaccine itself should be fresh, although vaccine kept for a long time did lose in efficacy.—Dr. W. D. O'KELLY said that in some cases it was very questionable whether the infection was really gonococcal. He never succeeded in getting gonococcus to grow.—Mr. HENRY MOORE said that in the cases in which vaccine was most useful—namely, at the very beginning of an attack, or in old-standing cases of gleet—an autogenous vaccine was impossible. His method of obtaining a vaccine was to get Dr. Stokes to make one once a month from a male case on the second day of the urethritis. If in doubt as to the cause of an old-standing discharge or the cure of a patient who had suffered from gonorrhœa he gave from 15,000,000 to 30,000,000, and examined the resulting discharge, if any, 24 hours after. In old-standing cases of posterior urethritis no local treatment was effective without vaccine, and the serum should not be more than four weeks old.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on March 26th, Dr. John Lindsay, the President, being in the chair.—Professor J. H. Teacher gave a demonstration of gynæcological specimens illustrating various conditions, the most noteworthy being sections of the genital gland of a case of hermaphroditism showing both ovarian and testicular tissue elements, specimens of ovarian pregnancy, and a specimen of a uterus showing ectopic pregnancy in a rudimentary Fallopian tube. A lantern demonstration was also given on the embedding and development of the early human ovum. Professor Teacher reviewed the present state of our knowledge of the subject, more particularly in relation to the work of Professor J. H. Bryce and himself. The lecture was illustrated by numerous lantern slides and by microprojection of sections of the Teacher-Bryce ovum. Professor Teacher stated that the preparation still represented the earliest known stage of the human ovum, the only more recent specimen at all comparable in age being that of Young, of Edinburgh, which is apparently intermediate in development between it and the ovum of Peters, but probably abnormal. Several very valuable ova of about the age of the last have been found within the last five years, and the examination of these has confirmed and extended the discoveries due to that famous preparation. Professor Teacher also reviewed the position of the theories of the nature of menstruation and its relation to ovulation and fertilisation.—The discussion which followed was taken part in by Dr S. Sloan, Dr. E. H. L. Oliphant, Professor J. M. Munro Kerr, Dr. G. Balfour Marshall, and the President.

Reviews and Notices of Books.

Instinct and Experience. By C. LLOYD MORGAN, D.Sc., LL.D., F.R.S., Professor in the University of Bristol. London: Methuen and Co., Limited. 1912. Pp. 299. Price 5*s.* net.

Professor Lloyd Morgan, as readers of his earlier writings are aware, possesses in a remarkable degree the capacity for devising apt and clear definitions, and this capacity finds ample scope in the discussion of the questions with which he deals in his latest volume—questions which owe their difficulty in no small degree to the divergence of meaning attached by different writers to the terms used in the debate. It is the more necessary to remove this source of confusion because, as the author very justly points out, our views with regard to the nature of instinct—and these views are necessarily expressed in the definition of instinct which we adopt—imply to a large extent the whole character of our philosophical outlook. Professor Morgan, approaching the question as a biologist, would define instinctive behaviour as "that which is, on its first occurrence, independent of prior experience; which tends to the well-being of the individual and the preservation of the race; which is similarly performed by all the members of the same more or less restricted group of animals; and which may be subject to subsequent modification under the guidance of experience." On the ground of physiological experiment he would conclude that such behaviour is the outcome of inherited subcortical dispositions, being, in fact, of the nature of more highly complex reflex action, and as such within the capacity of the decerebrate animal. But in the normal animal with intact brain this behaviour, though in itself automatic, is accompanied by conscious experience, and the experience so begotten reacts on subsequent behaviour, which then, in so far as it is modified or in part conditioned by such reaction, becomes intelligent. The conscious guidance implied in intelligent behaviour is in the higher vertebrates correlated with functional activity in the cortex. It may be noted in passing that this restriction of the term instinctive to the expression of subcortical dispositions would exclude from the category of instincts those hereditary mental tendencies, shown, for instance, by men of genius, which are very commonly spoken of as instinctive. Professor Morgan would explain such tendencies as due also to congenital dispositions—to dispositions, however, not of the subcortex, but of the cortex—and he would qualify them as innate. This sharp distinction drawn between innate tendency and instinct appears to be warranted by physiological experiment, and the use of distinctive terms to describe the two classes of facts is practically very convenient.

Professor Morgan's doctrine of experience, which it is the special aim of this work to expound, is the development of his view of the relation of instinct to intelligence. The first experience given to the higher vertebrate is that which accompanies instinctive behaviour; we have at that stage the beginning of the synthetic process of experiencing, correlated with the synthetic process of living, which is its natural precursor. The essential characteristic of this higher level of living is that new relationships supervene, which we describe as conscious. Is there any sufficient reason for separating these relationships, as subjects of scientific inquiry, from the rest of the world-process? To this question Professor Morgan's reply is an emphatic negative. In his view the province of science is to deal with process and its products as somehow existent; it is not concerned with their *source*, which is a question for metaphysics. And if science has simply to accept chemical and physical processes, gravitative or crystalline processes, without attempting to explain their source, so also has it to accept conscious processes as within the constitution of nature. In holding this monistic doctrine Professor Morgan is, of course, at issue with the supporters of vitalism and animism, but he appears to be even more removed from sympathy with the advocates of what are commonly regarded as mechanistic theories. This is clearly evident, for instance, in his dismissal of the epiphenomenalist view of consciousness, and in his insistence on the innovating and incalculable trend of evolution. In his treatment of this latter point his attitude, indeed, despite the fundamental differences in their doctrines, approximates very much to that of M. Henri Bergson; and we may add that Professor Morgan is ungrudging in his recognition of the services which he considers that the French philosopher has rendered to science by his destructive criticism of the intellectualist position. This capacity to sympathise with and to understand the views of opponents is no small element in the effectiveness of Professor Morgan's argument, and it is shown in the examination of doctrines the most alien to his own tendencies.

The book is altogether a remarkable contribution to psychological literature, and even those who cannot accept all the author's conclusions may feel grateful to him for the clarifying influence which his work must exercise on the discussion of the difficult and complex questions that it deals with. The book, as we learn from the preface, was in some measure suggested by a discussion on the subject of Instinct and Intelligence which took place two years ago in London at a joint meeting of the Aristotelian and British Psychological Societies and of the *Mind* Association. The fact is worth noting for the encouragement of the organisers of such intellectual tournaments, which can certainly not be held fruitless if they help in any way to stimulate the production of works of the value of this singularly acute and penetrating study.

Researches in Colour Vision and the Trichromatic Theory. By Sir WILLIAM DE W. ABNEY, K.C.B., D.Sc., D.C.L., F.R.S. With four coloured plates and other illustrations. London: Longmans, Green, and Co. 1913. Pp. 418. Price 21*s.* net.

WE have no hesitation in saying that this book is the most important contribution to the study of colour vision, normal and diseased, that has appeared for a long time. Those interested in the subject know that Sir William Abney has for many years been publishing researches on it in the Proceedings of the Royal Society and elsewhere. It is not easy to keep closely in touch with periodical publications of this kind, and we cordially welcome this authoritative exposition of his work, which gathers together the scattered threads and gives a connected account of the distinguished author's views. These views are strongly opposed in certain quarters, and this is an exposition of the work, and the deductions from that work, of one man.

The originality of the methods of attacking the problems, both in their conception and in their practical working out, will appeal to every scientist. They are scarcely open to criticism, though criticism is not only justified but would certainly be welcomed by the author in the interpretation of the results. Sir William Abney is scientifically the lineal descendant of Thomas Young, Helmholtz, and Clerk Maxwell. All were physicists, and all, great men as they were, were most vulnerable on the physiological side. The Young-Helmholtz theory of colour vision is, *par excellence*, the physicist's theory. Let us admit at once, with Sir William Abney, that it does not satisfactorily explain all the problems. At least it explains many, perhaps most, and in any case we sympathise with the author's wish "to show that the trichromatic theory of colour vision does not yet require a funeral oration over its remains." As he says again, "A theory, to be one of perfection, must offer the truth, the whole truth, and nothing but the truth. The trichromatic theory offers the truth: but the physiologists must add their quota to it to make it the whole truth." This is a safe and reasonable standpoint.

Colour vision and its defects have an important practical bearing on everyday life, but they appeal to a relatively small number of medical men. Those interested in the subject are bound to read this book, and it will be found that it is not all easy reading. Sir William Abney's writings are not always as lucid as they might be, though this book is much less obscure than some of the original papers upon which it is largely based. There is one irritating feature which we should like to see altered. All the statistics and diagrams are referred to an arbitrary scale, which necessitates reduction to wave lengths by the reader. They might equally well have been recorded in wave lengths and thus made universally available. The specialist will find most to interest him in Sir William Abney's new method of numerically estimating colour deficiency in the colour blind, but the facts upon which it is based are by no means accepted by all.

Studies in Clinical Medicine. By C. O. HAWTHORNE, M.D. Glasg., Physician to the North-West London and Royal Waterloo Hospitals. London: John Bale, Sons, and Danielsson. 1912. Pp. 441. Price 6*s.*

THIS is a volume of essays and lectures of varying interest, many of which have already appeared in the current medical journals, but all have been revised and some of them have been partly rewritten.

The first five essays deal with different aspects of rheumatoid arthritis and contain some interesting observations on various aspects of this disease, including the occurrence of heart disease in connexion with "rheumatoid" joint disease. Reproductions of excellent photographs are given, showing the deformities that may ensue. One of the articles bears the title, "On the Occurrence of Pyrexia in Cancer and Other Diseases of the Liver and in Cases of Gall-stone." The fact that pyrexia may accompany malignant disease not only of the liver but of other organs (e.g., the lungs) is important, and unless it is fully recognised errors in diagnosis are likely to arise. Dr. Hawthorne records some cases in which the temperature was a confusing element in diagnosis. In one case it was not only the mere occurrence of pyrexia which was of interest, but also the course and character of the fever, and the fact that on many occasions each of the sharp, short-lived outbreaks of fever was preceded by a severe rigor. It has been suggested that "the absence of ague-like attacks" favours a diagnosis of malignant disease, but the cases quoted show that such a proposition does not always hold. Reports are given of several clinical lectures and demonstrations. One which is well worthy of attention is on "Two Cases of Chronic Renal Disease associated with Secondary Inflammation of the Serous Membranes." Dr. Hawthorne draws attention to the well-known fact that a patient with chronic interstitial nephritis may reach an advanced stage of the disease without any symptoms causing him anxiety or even annoyance. The first active manifestation of this disease may be an acute pleurisy. We agree with Dr. Hawthorne that it is not too much to say that an acute pleurisy occurring in a patient who has reached middle life is an event which ought in itself to excite a suspicion of kidney disease. Exactly the same remark may be made of pericarditis, and in this instance there may not only be an absence of fever, but also absence of pain.

We have found much of interest in this volume. There is evidence of careful observation and also of the power to describe and record clinical conditions. Much instructive material is gained by records of bed-side teaching; the observations at the bed-side form the most valuable information a student can obtain, both for examination purposes and subsequently to aid him in the actual practice of his profession.

Trommelfellbilder. Ein Atlas für den Praktischen Gebrauch. Herausgegeben von DR. A. PASSOW, o.ö Professor an der Friedrich Wilhelms-Universität und der Kaiser Wilhelms-Akademie fur das Militärärztliche Bildungswesen zu Berlin. Mit 26 farbigen lithographischen Tafeln. Jena: Gustav Fischer. 1912.

FOR beauty and truth of tint and accuracy of drawing it is probable that most of these coloured lithographs have never been equalled. We endorse Dr. Passow's approval of the drawings, which are from the pencil of Herr Helbig. As an aid to instruction, but to individual instruction alone, they would be invaluable, but for the assistance of the practitioner who wishes information the same scarcely applies. For the latter either does not know enough to enable him to find the counter part of the case he desires, or he knows enough not to require such an illustration. The potential value, therefore, of this artistic production is low ; its artistic merit high As the science and art of aural surgery and therapeutics advance, so is the need for works of such a description as Dr Passow's diminished Less importance is attached to trifling variations of the size, shape, and position of the cone of light, the colour of the tympanic membrane, and such like minutiæ, which form the bulk of the limner's stock in trade

This is quite the finest atlas of drawings of the tympanic membranes published of recent years.

Lehrbuch der Chirurgischen Operationen an der Hand klinischer Beobachtungen fur Aerzte und Studierende Von Professor Dr FEDOR KRAUSE, Geh Medizinalrat, dirigierendem Arzt am Augusta Hospital in Berlin, in Gemeinschaft mit Dr EMIL HEYMANN, Oberarzt am Augusta-Hospital 1 Abteilung, mit 233 zwei- und mehrfarbigen Abbildungen auf 65 Tafeln, sowie 57 Figuren im Text Berlin und Wien Urban und Schwarzenberg 1912 Pp 252 Price, paper, 12 50 marks, bound, 14 marks

THIS is the first instalment of an elaborate and valuable treatise on operative surgery, and this section deals with the general preparations for an operation, the methods of obtaining anæsthesia, both local and general, the principles of asepsis, the sterilisation of the hands of the surgeon and his assistants, of the skin at the site of the operation, the dressings, and the suture material The treatment of complications, such as heart failure, and pain after the operation is also considered After these preliminary matters have been dealt with the surgery of the head is treated, and that is the only section of operative surgery contained in this part It begins with an account of wounds of the head, including fractures, then follow the removal of tumours of the face, the plastic operations on the face, the surgery of cleft palate, and rhinoplasty The section on the surgery of the eye includes only enucleation of the bulb, operations on the lids, and osteoplastic resection of the outer wall of the orbit Descriptions of the operations of the ear and nose are given, and are followed by a very full account of the surgery of the fifth nerve, including resection of the Gasserian ganglion The majority of the operations described are illustrated with black and white or coloured plates, and these have been executed in a very satisfactory manner

This work has been designed and carried out admirably We await with interest the succeeding parts, for it should prove to be a most complete treatise on operative surgery

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Hygiene for Health Visitors, School Nurses, and Social Workers By C W HUTT, M A., B C Cantab, D P H Oxon London P S King and Son 1912 Pp 415 Price 7*s* 6*d* net

THE health visitor now takes a recognised and important position among sanitary officials In many of our larger towns health visiting alone occupies the time of several women on the establishment of the medical officer of health's department, in other places health visiting and school nursing are combined, while in rural areas the county district nurses are sometimes very usefully employed by local authorities to give assistance in these branches of sanitary work

It is, however, by no means easy to answer the question, What should a health visitor know? Every medical officer of health, and, indeed, every medical practitioner, can at once name dozens of things which she can do, to the great advantage of the working class households which she visits, and perhaps almost as many things which she should not do Usually a nebulous compromise is effected by saying that it all depends upon the woman herself, and that the most essential qualification is "tact" But if tact is to be truly exercised it must be based on knowledge, not only of the particular details and rules which the visitor is to attend to as part of her instructions, but of the essential principles which underlie them Here, however, we enter upon the chief difficulty which confronts those who undertake to examine and give certificates to health visitors How far can the examiner reasonably go in insisting on genuine knowledge and rejecting the spurious substitute afforded by the more or less accurate recital of semi-scientific tags which are only imperfectly understood? At present the examination standard is necessarily dependent partly on the kind of knowledge which candidates as a whole are found to possess and partly on the teaching available

It is from the latter point of view that we must give a very cordial commendation of Dr Hutt's work While in its subjects it follows the articles of the syllabus of the examinations for health visitors held by the Royal Sanitary Institute it is in no sense a cram book A study of any one of its chapters shows that Dr Hutt has given great pains to the selection of the subjects with which he deals, and to the accuracy of the instruction which he gives, and that he has nowhere lost sight of the purpose for which his book is intended Women of good general education, especially if it includes some knowledge of elementary science, who are intending to follow this line of municipal work, could not do better than master the contents of this volume It should not only give them all the information requisite for examinations such as those of the Royal Sanitary Institute or National Health Society, but also should ground them, when they come to undertake practical work, in the principles which they have to apply, so that they will carry it out with a proper sense of proportion We may add that there is much information in this volume which will be found of great value to those engaged in private nursing

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Cerebellar Functions By Dr ANDRÉ THOMAS, Ancien Interne des Hôpitaux de Paris Translated by W CONYERS HERRING M D New York With 89 figures in the text Nervous and Mental Disease Monograph Series, No 12 New York Journal of Nervous and Mental Diseases Publishing Company 1912 Pp 223 Price $ 3 00

SINCE the appearance of his well known Thèse in 1897 Dr André Thomas, of Paris, has been regarded as one of the authorities on the physiology and pathology of the cerebellum and he has justified this opinion by many other valuable communications on this difficult subject In a recent monograph he has given a very complete *résumé* of the state of present knowledge on the anatomy and physiology of the cerebellum, and on the symptomatology of cerebellar disease, and it is this monograph which now appears in an English translation, and will, we feel sure, be welcomed by a large circle of readers The first section of the book is taken up with an exposition of the clinical facts and experimental phenomena that are found to result from interference with the functions of the cerebellum The second part is concerned with their interpretation While it is evident throughout that the material is being handled by one who is a master of his subject, we wish especially to commend the second division of the book, and in particular the chapter on the cerebellum and motility, which contains a judicial investigation of the claims of rival hypotheses to consideration

The physician in search of knowledge in this department of medicine will find this monograph to contain a complete and up to date presentation of the subject, lucidly set forth and unencumbered by non essentials The translation is on the whole well done, but it bears evidence of a certain amount of haste, for several slips have crept in, and the rendering of the original is not always satisfactory.

Cancer of the Breast Clinically Considered. By the late CECIL H. LEAF, M.A., M.B. Cantab., F.R.C.S. Eng., Surgeon to the Cancer Hospital. London: Constable and Company, Limited. 1912. Pp. 154. Price 10*s.* 6*d.*

THIS work was left almost complete by the author at the time of his early death, and all who read it will appreciate how great a loss surgery sustained by such an untimely end. Mr. Cecil Rowntree has seen the book through the press, and he has completed the last chapter, which had been left unfinished. The object of the author in writing the book was, he tells us, to record the results of his operations for cancer of the breast, and he took great pains to follow all his cases, so as to obtain accurate information as to their condition for several years after the operation. The anatomy of the breast and the neighbouring structures is fully described. The etiology and the diagnosis are discussed, and then the selection of patients for operation and the choice of the operation performed in each are considered, and the radical operation is described. A chapter worthy of special mention is that in which the results of the author's operations are described and discussed. Dr. T. Johnston English has added a chapter on the subject of anæsthetics.

In addition to a number of black-and-white illustrations there are some very good water-colour sketches by the author, which have been excellently reproduced. The book is a useful clinical study of the disease and of the operations performed for its removal.

LIBRARY TABLE.

The Origin of Life: Being an Account of Experiments with Certain Superheated Saline Solutions in Hermetically-sealed Vessels. By H. CHARLTON BASTIAN, M.D. Lond., F.R.S. Second edition, with an important appendix and two additional plates. London: Watts and Co. 1913. Pp. 98. Price 3*s.* 6*d.* net.—The second edition is in every respect like the first, which was reviewed in THE LANCET of April 29th, 1911, p. 1140, save that an appendix of 21 pages and two plates have been added. The appendix consists of a paper read before the Royal Society of Medicine in November, 1912. The author restates his position as to the nature of the problem and the extent to which, in his opinion, it has been solved, gives replies to criticisms, cites new experiments, and what should be done in further trials. We cannot find that the author has, by his experiments on grapes, or by his additional 280 experiments, added anything to help convince us of the demonstrable accuracy of the position he maintains. We are told that several learned gentlemen, whose names are given, well known in the medical world, "all saw typical budding torulæ which had been removed from one or more of the tubes"—the tubes containing one of the ordinary colourless solutions. We have no independent report by these onlookers. To our mind the position is quite unchanged, and we ourselves still remain unconvinced, save, of course, of the courage and good faith of Dr. Bastian.

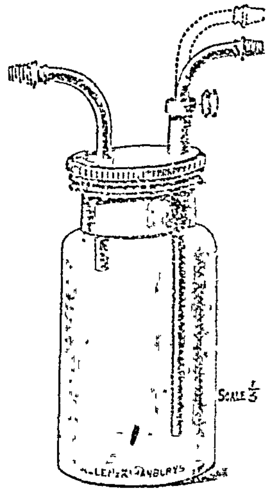
A Manual of Infectious Diseases occurring in Schools. By H. G. ARMSTRONG, M.R.C.S. Eng., L.S.A., and J. M. FORTESCUE-BRICKDALE, M.A., M.D. Oxon. Bristol: John Wright and Sons, Limited. 1912. Pp. 155. Price 3*s.* net.—This book is designed to be of service to the masters and mistresses of schools, and the diagnosis and treatment of disease are treated therefore from this standpoint. The infectious fevers that occur in schools are well described, and there is a good chapter on eye infections and one on ringworm. This latter might be read with profit by medical men, many of whom do not apparently realise the urgency, from the school point of view, of accurate diagnosis in this disease. It is unfortunate that in a book the special chapters of which are so thorough the introductory chapter should give the impression of being inadequately considered. This portion of the book is too much dominated by the conception of the mode of disease production found in diphtheria, and unfortunately perpetuates what can be described only as the superstition that burning sulphur in a sealed room is an effective disinfectant. In the treatment of diphtheria also no attention is devoted to possible local treatment and to medicinal treatment; these aids cannot safely be neglected. But these are minor blemishes on a book that well describes the chief signs and symptoms of the infectious fevers, including the typical rashes. The outlines of treatment given are also eminently useful, and are simplified to a degree which should make the subject readily comprehensible to the lay mind. Mr. Armstrong directs attention to the value of croton oil applications for small patches of ringworm, by means of which he "can get the place well more quickly than by X rays."

Digestion and Diet. By THOMAS DUTTON, M.D. Dunelm., M.R.C.P. Edin. London: The Walter Scott Publishing Co. 1913. Pp. 131. Price 2*s.* net.—The fact that this is the fourth edition seems to indicate that there is some demand for such a production. The title is misleading, as there is nothing said about digestion and very little about diet in the ordinary usage of the word. The subject-matter is almost confined to the varieties and sources of foods, and is treated in a very broad, gossipy manner. It is a pity this new edition is not pruned of verbal errors and numerous examples of careless phraseology.

New Inventions.

MEDICATED OXYGEN BOTTLE.

IT is not unfrequently desirable to administer nitrite of amyl, or iodide of ethyl, along with oxygen to patients suffering from anginal attacks or spasmodic asthma. This is usually done by putting the medicament upon a piece of blotting-paper or cotton-wool in the funnel or inhaler close to the patient's face. The inconvenience of this is that the apparatus is apt to move from its position and there is no means of regulating the strength of the inhalation. To obviate these inconveniences a bottle has been made for me by Messrs. Allen and Hanburys, Limited, of Wigmore-street, London, W., with two metal tubes arranged similarly to those of an ordinary Woulfe's bottle. One of these, however, can be moved up and down, and may be fastened by means of a screw, as shown in the illustration. The cotton-wool or blotting-paper, moistened with nitrite or iodide, is placed in the bottle. At first the movable tube is drawn well up, so that as the oxygen passes through it over the wool the vapour is dilute. As the nitrite evaporates the tube is pushed further down so as to go closer to the paper or wool, and thus a stronger vapour is obtained. When it is desired to give a diffusible stimulant ether may be employed in a similar way, or a quantity of rectified spirit, brandy, or whisky may be poured into the lower part of the flask and oxygen allowed to bubble through it. The bottle may also be used simply to render the oxygen warm and moist. In this latter case the bottle is half filled with hot water and placed in a small basin of hot water, or surrounded by hot wet flannels. In some cases of bronchitis it may be advisable to add to the hot water friar's balsam, terebene, or other terebinthine preparation.



LAUDER BRUNTON, M.D. Edin., F.R.S.

Stratford-place, W.

THE LANCET.

LONDON: SATURDAY, APRIL 5, 1913.

The Working of the National Insurance Act.

WE have during the last month[1] been publishing the notes of a member of the staff of THE LANCET who, in the character of a Special Commissioner, has been making personal inquiries in certain selected centres of the country into the working of the National Insurance Act with reference to the administration of medical benefit. The area that would have to be covered to make any such inquiry thorough would be the area of Great Britain, for it is a fact that the results of the Act, both as regards the medical service which the country will derive from it and as regards the advantages or disadvantages which will accrue from it to the medical practitioner, will vary greatly in different localities. It is perfectly certain that in many places where identical social conditions appear to prevail, and in many contiguous neighbourhoods, presenting as far as can be seen the same qualities of population, average prosperity, and type of employment, there will be found different responses to the promises of the Act when a close examination is made. It may not be necessary to carry out any such wide scrutiny as is thus suggested, but we propose to continue our investigation of the working of the Act until the main points which have been alluded to in our columns and elsewhere as probably affording material for future amendment have been dealt with. And this is the more necessary as already it is clear that the medical profession as a whole is in two minds about the working of the Act. The number of persons who, whether they approve or not of the almost unlimited extension of contract practice which has now occurred, admit that the material position under the Act is better than they had been led to expect, is on the increase, but there is rightly no relaxation of watchfulness on the part of those who feel that in many ways the sections of the Act dealing with the administration of medical benefits are fraught with danger to medical progress, both scientific and material. The evidence from Scotland, where our representative is next proceeding, will, we believe, be found to bear this out.

Our valuable contemporary the *Manchester Guardian* has made an attempt to survey the working of the National Insurance Act during the first two months, and, according to their summary of the situation, inquiries made in Manchester and Salford go to show that from a purely administrative point of view the defects which were inseparable from the scope of such complex and far-reaching schemes as were inaugurated by the Act are rapidly disappearing. But it is quite clear that the administration of medical and sickness benefits has been attended in Manchester and Salford with the defects which have been mentioned by our representative as occurring in those localities which he has as yet visited. The exact relation of the practitioner who has accepted a place on the panel towards the out-patient department of a hospital, and those who administer it, is difficult to define. Our representative points this out to be particularly so in Carlisle; the author of the articles in the *Manchester Guardian* alludes to the same difficulty in Salford. The hospitals naturally do not consider that an insured person, being in receipt of sick pay, is a proper object for the charity of the hospital when his case is one that could be perfectly well treated by the medical officer to a club on whose list of patients he already figures as an insured person. The medical practitioner on the panel, on the other hand, thinks that the staff officers of hospitals are now finding a great many cases unfit for hospital treatment which before the working of the Act would have received treatment in the out-patient department. And the trouble is complicated by the fact that a certain number of patients being workmen who through various funds collected in their workshops are small subscribers to the hospital do not consider that the benefits of the hospital form in any sense a charity to be withheld from them if they are unsuitable patients for charity. They choose to regard what is done for them at the hospital as a service for which they have paid in their subscriptions, and this attitude which has proved a difficulty already in many places, bids fair to be aggravated.

It was seen when the National Insurance Act first made its appearance as a remarkably unfinished Bill, that many difficulties would centre round such questions as the grant of, and payment for, medical certificates. It was clear that an enormous amount of certification would be required at the hands of the medical profession, while experience warned us that the State would be certain to demand as far as possible that this certification should be done gratuitously. *A fundamentally important point* in connexion with certificates was perceived upon the issue of the Regulations, to be left in a very doubtful position, and this point was raised just before Easter by a suit heard in the King's Bench Division before Mr. Justice BAILHACHE. In this case the plaintiff Mr. W. A. HEARD, a member of a branch of the Ancient Order of Foresters, sought against Mr. C. PICKTHORNE and others representing the Court Abbey Foresters a declaration that a resolution of the society was illegal, *ultra vires*, and unenforcible. The resolution objected to was to the effect that all certificates of incapacity, enabling persons insured under the National Insurance Act in the approved society mentioned to draw sick pay must be signed by medical men on the panel, and that the signature of a medical man not on the panel could not be accepted for the purpose—that is to say, the member of a society who preferred to be attended in sickness by a medical man not on the panel, paying him himself, could not draw sick pay upon the certificate of that medical man, but must obtain one from a member of the panel. Unfortunately, this important point was not decided by Mr. Justice BAILHACHE, who accepted the contention of counsel for the defence, and held that the resolution passed was not, in any event, such an illegal act as to justify an action being brought in connexion with it. It was, he held, a matter to be decided by arbitration under the rules of the society, as contemplated by Section 67 of the Act, with right of appeal to the Insurance Commissioners. Mr. Justice BAILHACHE therefore dismissed the action before him with costs, and any appeal that may be made against his decision will be awaited with interest, as will also be the result of appeal to the Commissioners if the determination of the question should be found to rest ultimately with them.

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[1] THE LANCET, March 8th (p. 721), 15th (p. 787), 22nd (p. 854), and 29th (p. 920).

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The Organisation in London of the Treatment of Tuberculosis.

THE practical application of sanatorium benefit was initiated in July of last year, but during the months that have passed since then, although a certain number of patients have been admitted into hospitals or sent to sanatoriums, much confusion has existed in relation to all organised effort to deal with the problem. The London County Council, in its position of central public health authority, is well fitted to systematise the arrangements in London, and we are glad to see that the Public Health Committee of that Council have been requested to prepare forthwith and submit to the Council a scheme for dealing with tuberculosis throughout the Administrative County of London. We have published an account of a report from that committee which foreshadows the course to be recommended. The existing provision for dealing with tuberculosis is in the hands of several authorities and institutions, so that some confusion is perhaps inevitable. These may be classified as follows: (1) official agencies—the County Council, both as a health and an education authority, the local sanitary authorities, the Poor-law authorities (including the Metropolitan Asylums Board), and the Insurance Committee; and (2) voluntary agencies, as the general and special hospitals, the tuberculosis dispensaries, the various nursing, charitable, and philanthropic associations, and religious bodies. It is obvious that if the best results are to be obtained these authorities and institutions must be coördinated. Particularly in relation to the London County Council and the Local Government Board might it be suggested:—

> When two authorities are up,
> Neither supreme, how soon confusion
> May enter 'twixt the gap of both, and take
> The one by the other.

We especially approve of the proposition that advantage should be taken as far as possible of the large general and special hospitals. The advantages they can offer in the way of an experienced staff, beds for observation cases, special departments, and clinical laboratories are far in excess of any provisions that could be made by the local authorities in the shape of new dispensaries, with a limited staff. Important assistance as regards research might also be obtained by investigations made at hospitals devoted to diseases of children, where opportunities arise of studying tuberculosis in the early years of life. This is well illustrated by an interesting paper which we publish this week in another column on the pathology of tuberculosis in infancy and childhood, by Dr. C. PAGET LAPAGE and Dr. WILLIAM MAIR. Further, facilities for research would be much greater and more valuable at one of the existing hospitals than at a newly formed dispensary. In order to facilitate the part to be played by the large hospitals in the general scheme for the treatment of tuberculosis, the staffs of the London special hospitals met on Dec. 10th, 1912, and passed certain resolutions.[1] Among these resolutions one was to the effect that each special hospital for diseases of the chest should be the central tuberculosis authority in its own area; that area would consequently have the advantage of the services of the members of the staff of the hospital and the many opportunities offered by such an institution which we have mentioned, while in an area where no special hospital existed one of the general hospitals could act as the central tuberculosis authority. We heartily commend this proposition and the others passed at the meeting to the favourable consideration of the Public Health Committee of the London County Council.

There is another matter in reference to the working of the sanatorium benefit to which we think attention should be drawn. Tuberculosis officers have been, or are about to be, appointed throughout the country. It is of the utmost importance that care should be taken, first, that they have had an amount of practical experience with tuberculosis sufficient to render them actual experts; secondly, if these officers are appointed by the various local authorities a strict veto should be exercised by the chief administrative body, so as to prevent local influence from being exerted to bring about the election of unsuitable candidates. In order to give those medical men who wish to devote themselves to the duties of a tuberculosis officer opportunities of special study courses of instruction are being instituted at the hospitals for diseases of the chest in London. A complete curriculum should consist of studies in the wards, out-patient rooms and laboratories, instruction in a sanatorium, and in addition attendance on special lectures in the diagnosis and treatment of tuberculosis and in administrative duties. At present the amount of experience required in candidates for these appointments borders on the farcical. Attendance on two afternoons a week at a tuberculosis dispensary over a short period is all that is necessary. We trust that when a central tuberculosis authority is established, at least six months' study in a special hospital will be insisted on. Indeed, we would go further and say that as the duties involved will practically form a special municipal or State service, similar courses of study should be required as in the case of medical officers of health, and certificates stating that the candidates have shown efficiency in this particular branch of medicine should be demanded. We believe that if this plan were instituted, combined with the endowment of laboratories for research, an encouraging commencement would be made for combating the disease. Another advantage resulting from such special training would be that the officers would be in a position to recognise and report upon the rarer forms of pulmonary tuberculosis, and thus add to the general knowledge of that disease. Dr. J. Nicol Galbraith records this week an interesting case of acute tuberculous pneumonia with recovery. This condition is generally supposed to be fatal, but tuberculosis officers will have exceptional opportunities of meeting with similar cases. Especial experience is needed in order to recognise them, but when recognised they may be successfully treated.

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[1] THE LANCET, Dec. 14th, 1912, p. 1672.

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Superfluous Oxygen as the Peril of the Mine.

It used to be taught in the early days of chemical lessons that when a candle went out it was safe to assume that the air was no longer fit for human respiration. The belief still prevails even amongst miners, for they reckon that they have had a narrow escape if they eventually reach the surface safely after passing along a mile or so of mine roadway in which the air would not support the combustion of an oil lamp. According to recent researches this is a fallacy, and the observation is of the utmost importance connected with the protection of life in mines. The fact would appear to be that normal air at sea level contains oxygen in excess of the requirements of healthy respiration; and when we reflect that at great altitudes colonies of human beings are known to exist and enjoy a hardy and vigorous life in spite of the fact that the partial pressure of oxygen is only 12 per cent., the point may well arrest our attention. The physique of the Indians dwelling on the upper slopes of the Andes is notoriously splendid, and the inhabitants of the high plateaus of Thibet combine physical vigour with activity. "It is well known," writes Dr. Leonard Hill, "that men can work hard and live vigorous, healthy lives in the mountainous regions of the earth where the partial pressure of oxygen is only 17 per cent. of an atmosphere or less. In the Alps there are noted health resorts at very high altitudes, and the Alpine guides and soldiers are the healthiest of men. Mexico City and Johannesburg were built at an altitude of about 6000 feet. In the Andes railways have been built and mines worked at an altitude of 12,000 to 16,000 feet, and several towns with populations exist at 10,000. The human organism easily compensates itself for the diminution in the partial pressure of oxygen. The ventilation of the lungs and the percentage and total amount of hæmoglobin increase, while the power of the hæmoglobin to hold oxygen in combination also changes, with the result that the tissues obtain an adequate amount of oxygen."

If it can be substantiated that, while chemical combustion requires the presence of something over 17 per cent. of oxygen in the air human respiration can be satisfied with less without any harm accruing to the organism, it follows that a scheme presents itself, the application of which should diminish very considerably the loss of human life in the coal mine. The suggestion of adopting a protective measure based upon these considerations has reached us in a little book written by a practical chemical and mining engineer.[1] He shows that the needs of combustion *and respiration are different equations. Thus in the case* of combustion it is the percentage amount of oxygen that matters, but in respiration it is (within limits) the actual quantity—i.e., the weight in a given volume—that counts. A cubic foot of air, for example, with an oxygen percentage of 17·5, contains, at sea level, almost exactly the same weight of oxygen as an equal volume of air with 21 per cent. of oxygen at an altitude of 5000 feet. A lamp will not burn in *the former, but will, of course, burn quite readily in the* latter. For the purposes of respiration, however, they are *exactly alike. It seems possible, therefore, to provide the* miner with a supply of air perfectly adapted for respiration, but which fails to support combustion. In such an atmosphere he should be able to live a healthy respiratory life, while he should be free from the terrible risks of a fierce chemical union of gases or dust with oxygen which gives rise to the *appalling colliery explosion. While the air is good enough for* him to breathe it would fall short of the requirements of chemical combustion. Dr. Harger points out that, curiously enough, one gas—methane—which is of such vital importance, because it is the chief explosive constituent, in mines, is fortunately extremely sensitive to lack of oxygen, for the methane flame goes out when the oxygen has been reduced to about 17·5 per cent. Hydrogen and acetylene, however, will continue to burn until the oxygen is reduced to 7·5 per cent. and 9·5 per cent. respectively, but they are rarely if ever constituents of mine air. These observations are again of importance, since it means that the acetylene lamp could be used without risk for illuminating the mine in an atmosphere containing a reduced amount of oxygen, but yet which is sufficient for respiratory purposes.

Paradoxical as it may appear, it is quite conceivable that many of the great mine explosions have been caused by the enforcement of a high degree of chemical purity of the air. When ventilation was bad there were, at all events, no great dust explosions, and yet the Coal Mines Regulations Acts insist that a place shall not be in a fit state for working or passing therein if the air contains less than 19 per cent. of oxygen or more than 1·25 per cent. of carbon dioxide. On the other hand, Dr. Leonard Hill has declared that if the mine were ventilated with air containing 17 per cent. of oxygen in sufficient volume to keep the miners cool and fresh, not only would explosions be guarded against, but the mines could be safely worked and illuminated with electricity, and miners' nystagmus prevented. If these conclusions have a good foundation—and they appear to rest on sound reasoning, practical considerations, and experiment—it may well be asked why in the name of humanity the *principles laid* down are not put immediately into practice? Dr. Harger says the reduction of the percentage of oxygen in the ventilating current is undoubtedly the surest method of rendering mines safe from both gas explosions and dust explosions, as well as from the more frequent though less disastrous fires in the roadways, and he adds that this method, founded on his work and only recently discovered, is not yet in practice, though it has been proved that it can be worked *on a large scale* with every satisfaction. Is there any reason for delaying the application of a method which suggests the prevention of an appalling sacrifice of human life and of much human misery and pain?

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[1] Coal, and the Prevention of Explosions and Fires in Mines, by John Harger, M.Sc. (Victoria), Ph.D. (Heidelberg), M.Inst.M.E. London: Longmans, Green, and Co. 1913. Pp. 183. Price 3*s.* 6*d.* net.

Annotations.

"Ne quid nimis."

VENTRAL FIXATION OF THE UTERUS.

AN interesting and important discussion on ventral fixation, including under this term the various operations which have been devised of recent years for replacing the displaced uterus and fixing it in a more or less normal position, has recently taken place in the Obstetrical and Gynæcological Section of the Royal Society of Medicine.[1] The term ventral fixation is rather inaccurately used by many writers. It should be reserved strictly for those cases in which some portion of the anterior surface of the uterus is attached firmly by sutures to the structures of the anterior abdominal wall, most commonly to the peritoneum or to the peritoneum and muscle. Ventral suspension, on the other hand, should be employed to mean an operation in which the peritoneal covering of the uterus, either of the anterior or posterior surface, is attached to the peritoneum of the abdominal wall, so that a comparatively loose union or even ultimately a peritoneal band may result. If we may judge by the large number of cases recorded by some of those who took part in this discussion, these operations are performed by certain gynæcologists very frequently. There is, indeed, so great a discrepancy between the number of patients the advocates of these operations appear to see in whom such assistance is required and the number of patients in whom other surgeons find these operations called for, that the impartial critic cannot avoid coming to the conclusion that these procedures are performed by some gynæcologists on very slight indications. Indeed, one speaker rather aptly compared the more fervent advocates of the operation to the mid-Victorian practitioners, who considered all displacements of the uterus of the utmost clinical importance. It is not necessary for us to call attention to the fact, insisted upon by all modern teachers of gynæcology, that a displacement of the uterus *per se* is often of no moment at all, and, indeed, that such a position of the uterus may be normal for that particular patient. It is not an uncommon occurrence to find accidentally a retroversion of the uterus in a young single woman, no doubt congenital in origin, with no symptoms at all, requiring no treatment, and becoming cured as the result of the supervention of a pregnancy. In his remarks on the indications for these operations Dr. W. S. A. Griffith called attention to the two classes of cases in which they might be required, and with his main indications most gynæcologists will cordially agree. For cases of severe prolapse, more particularly after the menopause, in women who have to do hard manual labour, a properly performed ventral fixation, if combined with an efficient strengthening of the pelvic floor—a most important essential—is very successful in relieving the patient and enabling her to dispense with the use of pessaries. With this opinion most of the speakers were agreed, but there was evidently a good deal of difference of opinion as to the necessity for the operation in case of mobile backward displacements, and as to the success attending it. It has been pointed out by many writers that a large number of cases of backward displacements of the uterus, more particularly when combined with prolapsed and painful ovaries, are associated with a marked degree of neurasthenia and failure of the patient's general health. The latter condition is, indeed, often the actual or, at any rate, an aggravating factor in the production of the pain, and the general nervous state of the patient may be rendered much worse by mental worry and distress consequent upon the presence of dyspareunia. It is not to be wondered at, then, that in this class of case the woman is often but little benefited, and that the operation does not cure all the neurotic manifestations which she exhibits. In many instances the best cure for this state of things is a pregnancy, but not infrequently the mental distress is still further aggravated by sterility, and when all other remedies fail there is a great temptation to resort to one or other of these surgical procedures. The exact part played by the operation in giving relief in such cases is difficult to measure, and it is a not infrequent experience to find that when the effect of the rest in bed and the part played by suggestion has worn off the pain and symptoms return. We willingly admit that in many such cases great relief results and even pregnancy may occur and complete the cure, but it is in this class of case, where the main complaint is pain, that the ultimate results are so difficult to gauge and in which the records of individual observers are so likely to be unintentionally misleading. That the operation is an unscientific one is not in our opinion an argument of much weight; medicine is not an exact science, and many of the methods we employ with success for the relief of our patients are far from being scientific. To fix an organ which should be capable of movement may indeed be called unscientific, but if such a procedure cures a patient of symptoms which cannot be cured by any other means then the objection that the method is unscientific is of no value. That cases of intestinal obstruction may follow, and have followed, such operations is no doubt true, but this objection, when we remember the very small percentage of cases in which such an accident has occurred, is but a very minor one, and can be avoided by proper technique. There must of necessity in every operative undertaking be a certain small risk, but so long as the surgeon has faithfully and truthfully pointed out to the patient that such a risk exists, then provided that the patient with such knowledge is prepared to run the risk, it cannot be allowed to weigh too much against any procedure. The operations for fixing the uterus call for little skill, are attended with but a slight risk, and therefore lend themselves to abuse by those practitioners who take too narrow a view of their responsibilities, and who do not weigh with due care the value of the different symptoms present in each individual case. We have always thought that the best test of the legitimacy, if we may so term it, and necessity for any operation is the relative frequency with which it is performed by the surgeons attached to a large general hospital with a medical school—that is, in those conditions in which competent and honest criticism is not likely to be lacking. Judged by this standard, these operations of ventral fixation certainly appear to us to be justifiable in a certain selected number of cases and in certain very definite conditions, but hardly appear to be necessary to the very large extent to which they are practised at the present time by some surgeons and gynæcologists.

THE FORTHCOMING IMPERIAL SERVICES EXHIBITION.

PROBABLY no more fitting subject at the present time could have been forthcoming for the Earl's Court Exhibition of 1913 than the Imperial Services. Since the last Naval Exhibition of 1891 and the last Military Exhibition of 1890, both of which were held at Chelsea, Great Britain has passed through one serious war and has stood on the verge of other wars, while the struggle now in progress must result in a momentous change in the map of Europe, compelling all nations to consider their offensive and defensive positions.

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[1] THE LANCET, March 29th, 1913, p. 888.

Apart from the interest to every patriotic citizen of all things relating to the security and defence of his country, both by sea and land, the medical profession has a twofold link with the army and navy. Not only is there a specialised military medicine, necessitating the existence of a special corps of military medical officers—using the term "military" in its generic sense, to cover both the navy and the army—but also to that corps is due a large measure of additions to the common scientific knowledge of the profession, more particularly in the domains of tropical medicine and hygiene and of the surgery of wounds. The exhibition will naturally include much that is of great interest to all medical men in relation to ambulance and surgery. The Red Cross Hospital will be utilised for displays of a specialised training of civilians to fit them to cope with emergencies and the disasters of civil life in the mass, as well as with individual first aid. In recent years we have had the eruption of Mont Pelée and the destruction of Messina as examples of the kind of catastrophe that makes the whole world shudder; and even as we write we realise that across the Atlantic there is at this moment another dramatic contest between man and the elemental forces of nature. It is in times such as these that we recognise the need for trained and organised help—a need as great in this strife of civil life as any need of war. That the medical aspect will not be neglected we may judge from the presence on the committee of Surgeon-General Sir James Porter, the head of the Navy Medical Department, Surgeon-General Sir Launcelot Gubbins, the head of the Army Medical Department, and Sir Arthur Conan Doyle, whose experience in South Africa makes him a fitting representative of what may be regarded as the civilian auxiliary to the official medical services. A still further claim of the exhibition for support lies in the fact that, should any profits accrue, the service charities will benefit thereby.

BACTERIOLOGY FOR PHARMACISTS.

THE revision of the syllabus of the pharmaceutical examinations must before long receive attention, and it is perhaps possible to obtain some idea of what is contemplated by the Council of the Pharmaceutical Society from the fact that under its auspices the last of a series of lectures on bacteriology has just been delivered in the lecture theatre of the School of Pharmacy by Professor R. T. Hewlett, of King's College. A knowledge of bacteriology would undoubtedly be a useful acquisition to pharmacists, although it is hardly an essential part of the equipment of the average chemist and druggist. If this be the view of the Pharmaceutical Council, the subject of bacteriology is more likely to be introduced into the syllabus of the higher or "major" examination than into that of the qualifying or "minor" examination, which latter is, for the present, considered by most pharmacists to be a sufficiently severe test. In his final lecture Professor Hewlett outlined a course of instruction in microbiology, pathological chemistry, and microscopy, which he considered might be advantageously introduced into the pharmaceutical curriculum. This included the principles of sterilisation and the preparation of culture media; the effects of the development of bacteria on certain pharmacopœial preparations, and the means of preserving such preparations; the principles of antiseptic and aseptic treatment, and the preparation and use of curative sera. He estimated that an elementary course of this kind would require as a minimum some 20 lectures of three hours each, provided the students possessed some previous biological training and a knowledge of the use of the microscope. As the pharmaceutical student's acquaintance with biology is of a very meagre kind, the 60 hours suggested would hardly suffice unless a modification of the present course in botany were made, diminishing the amount of systematic botany required, and making the course not a course in botany only, but altering it to one in general biology, including animal forms as well as vegetable ones, somewhat on the lines of the old syllabus in biology of the Preliminary Scientific (M.B). Examination of the University of London. For advanced students Professor Hewlett suggested a further course of instruction such as would put the pharmacist in a position to assist medical practitioners in the diagnosis of disease by undertaking the investigation of morbid material. Provided such work entailed no encroachment upon the functions of the medical practitioner, there seems to be a place for pharmacists who are trained to undertake investigations of this kind, but an increasing number of medical men happen at this time to be working in the same direction. The duty of the pharmacist to whom such work was entrusted would be, as Professor Hewlett pointed out, merely to report on his findings and not to attempt to make any deductions therefrom.

POISONING BY PETROL FUMES.

THE danger due to the highly inflammable nature of petrol fumes is well known, but not the danger due to their toxic properties, as very few cases of poisoning have been recorded. In the *Canadian Medical Association Journal* for February Dr. Guy W. Johnson has reported 42 cases of poisoning which occurred in the construction of the Montreal tunnel. This tunnel is about 650 feet long, 8 feet high, and 12 feet wide. Ventilation was carried out by a zinc pipe 8 inches in diameter, through which air was forced in by a fan, and also by the compressed air used to run the drills. A petrol motor engine was employed to draw the cars of rock from the face of the tunnel to the bottom of the shaft. As long as the engine was not running the ventilation was sufficient to keep the air in the tunnel fresh, except for a few minutes after blasting. But within an hour after the engine was started the air became foul, causing throbbing and congestion of the vessels of the head and headache. On Nov. 22nd two men were overcome by the fumes from the engine and carried out. They suddenly collapsed and became unconscious. Dr. Johnson saw them within 20 minutes, when they were recovering. The most notable feature was extreme flushing of the face. The pulse was 100 to 108 and of good volume and tension. Respiration was 46 and deep. The knee-jerks and the plantar and cremasteric reflexes were absent, but the conjunctival reflex and the pupillary reaction to light were present. The pupils were moderately dilated. The men could move their arms and legs but could not speak. There was slight salivation. Consciousness was rapidly regained, but the men complained of severe headache, chiefly frontal. They returned to work in about an hour, and next day were none the worse for their experience. On Nov. 24th 16 men suddenly collapsed within a few minutes of one another without any warning. They were brought to the surface as quickly as possible and seen by Dr. Johnson within 20 minutes of the occurrence. They were in all stages of anæsthesia; some had recovered consciousness and showed only headache, muscular weakness, and salivation; others were shouting and struggling as in the second stage of ether anæsthesia. A few were unconscious, with complete muscular relaxation. In two there were also clonic spasms of the arms and legs, which came on every few minutes and lasted about a minute. All the men also showed the symptoms described in the previous two cases. On the next day they were able to work, but 18 men were overcome in the same way. Spectroscopic examination of the blood revealed absence of carbon monoxide. Analysis of the air in the tunnel showed traces of petrol fumes and no carbon monoxide. Four rats were placed in separate bell-jars into which a little petrol was introduced. They showed the following symptoms: first, reddening of the noses and gums; secondly, salivation; thirdly, restlessness; and fourthly, muscular relaxation and anæsthesia, which came on in 1½ to 2 minutes. A stage of clonic spasms, with relaxation between the spasms, followed. The rats were then removed and recovered in about 30 minutes, but three died without apparent cause next day. Post mortem their livers seemed very friable. Two fox-terriers were anæsthetised by inhalation of petrol with similar symptoms. After 15 minutes of anæsthesia the circulation and respiration ceased simultaneously without warning, and resuscitation could not be performed by any means. At the necropsy the heart was found to have stopped in diastole, and the right side was dilated. The veins all over the body were much distended. There was marked congestion of the liver and of the posterior parts of the lung. Thus, the toxic symptoms in man and in the lower animals are very similar. A noteworthy point is that the conjunctival reflex does not disappear and that the pulse is good and not very rapid. After the stage of muscular relaxation there are clonic spasms, which Dr. Johnson regards as a danger signal. Dr. C. R. Box has described two cases of petrol poisoning in chauffeurs who were manœuvring a motor-car about a closed garage.[1] He noted that in one case the face was flushed and cyanosed and in the other pale. In both there were muscular weakness, shivering, and spasms, but no vomiting. The pulse was rather small and fast, thus differing from Dr. Johnson's cases. Mr. M. J. Houghton has reported the case of a woman who was overcome in three minutes while washing her head with petrol in a small bathroom.[2] When seen 15 minutes later she was of an ashy-grey colour. The conjunctivæ were slightly suffused, the pupils dilated, and the lips slightly cyanosed. The pulse was 90 and thready. Dr. Fraser Gurd has, in a personal communication to Dr. Johnson, described a necropsy on a man who was found dead in a large tank which he had been cleaning with petrol. Nothing was discovered but venous congestion.

SOME INSANITARY FEATURES OF THE EXTEMPORISED PICTURE THEATRE.

THE extraordinary popularity of cinematograph exhibitions has led to the acquisition of scores, even hundreds, of buildings in which to give the demonstrations. The entertainment is perfectly wholesome and gives a cheap form of amusement and instruction to large crowds. But the evidence is plain on all sides that the buildings are not always wholesome. The cinematograph theatre is often a Black Hole of Calcutta, with no provision for ventilation at all. Especially is this the case with the extemporised theatre. Almost any old shop, in place of waiting for a trade tenant, can be adapted for the purpose of a cinematograph show, and there are many such shops in the metropolis, and doubtless in the provinces also. When a building is specially designed and ultimately constructed for the purpose we may fairly assume that the provisions for ventilation laid down by our health authorities for new buildings are followed. Whether, however, the place is a new building or an adaptation of an old shop, it is an essential of the performance to keep the actual theatre dark. The two factors of health, light and fresh air, can therefore seldom be contemporaneous even in the buildings specially designed for the purpose, while it is obvious in the case of certain of the abandoned shops which have been adapted for these exhibitions that both light and fresh air are excluded. The condition of some of these dark and unventilated enclosures is a grave comment on our modern views of what is healthy environment, and the enormous patronage which the picture theatre receives indicates how widespread may be the effects of an unhealthy stay within its walls. Evidence has been produced which suggests that such places have been a means of spreading infectious diseases particularly amongst children. Our sanitary authorities would do well to give their special attention to this matter, and initiate steps to ensure the people taking their recreation and instruction under physical surroundings that admit of no hygienic reproach.

PHLEBITIS IN MUMPS.

THE usual conception of mumps as a transient inflammation of the parotid glands attended with slight constitutional disturbance can no longer be held. Observations in recent years, principally by French clinicians, have shown that the disease may, like other infections, be attended by grave complications, such as pancreatitis, meningitis, neuritis, endocarditis, and pericarditis. For example, at a meeting of the Société Médicale des Hôpitaux of Paris M. E. Hirtz and M. Salomon reported a complication of mumps which does not appear to have previously been noticed—phlebitis. Of this they observed three cases in one household, the patients being a medical man, his wife, and his sister. The former was attacked while attending several members of a family for mumps. There was intense inflammation of the right parotid gland, and the temperature rose to 101·5° F., but fell to normal on the following days and the parotitis rapidly diminished. On the seventh day he had a rigor and the temperature rose again to 101·5°. On the eighth and ninth days it oscillated between 102·5° and 102·7° and was accompanied by malaise. On the tenth day it fell to 100·7°, but pain was felt in the right calf. On the eleventh day the temperature was again normal, but the pain persisted, compelling the patient to remain completely at rest. Examination on the fourteenth day showed a red line in the course of the internal saphenous vein, which was tender. The limb was not œdematous. On the fifteenth and sixteenth days the temperature was normal, but on the eighteenth it rose to 100°, and the femoral vein became painful. There was slight œdema over the malleoli. The limb was immobilised in a splint. The left lower limb now became painful, and acutely so in the calf. The whole of the course of the external saphenous vein was tender to the slightest touch. Recovery slowly took place under massage, electricity, and mechanical therapeutics. The patient was not able to walk normally for nearly four months. His wife, who nursed him, was seized at the time of a menstrual period with pains in the breasts and in the position of the ovaries. She also had sensation of weight in the legs. The pains increased so much that she had to take to bed. She then remarked that for some days the parotid regions were a little tender, and there was some difficulty in mastication. In the position of the right femoral, the two right saphenous, and the left saphenous veins there was marked pain. On palpation of the right iliac fossa a painful swelling was felt in the position of the right ovary. Ovaritis and phlebitis, due to mumps, were diagnosed, and the lower limbs were immobilised. The temperature did not rise above 99·3°. The affected veins formed hard cords and there was some œdema of the legs. On the nineteenth day there was intense pain in the left arm, which was attributed to neuritis due to mumps. Recovery slowly took place under the same treatment as in the previous case. The practitioner's sister, a married woman, was attacked with mumps Her temperature rose to 104° and there was acute pain in the ovarian regions She slowly recovered and remained pale and wasted About two months after the onset she went to the seaside, but after a few days had to take to bed Her temperature rose to 104 7° and there were rigors The temperature remained elevated for 10 days and then gradually fell She complained of pain in the left leg, which was œdematous The internal saphenous and the femoral veins became painful, and phlebitis was diagnosed She was not able to get up until the fifteenth day of the disease It is noteworthy that in the first two cases the phlebitis appeared about a week after the parotitis, while in the third case it did not appear until two months after All the patients were run down when they contracted the disease, which partly explained its intensity and tenacity, but the infecting microbe also appeared to be unusually virulent These cases are not completely novel M Hirtz and M Salomon have been informed by Dr Henri Béclere of a case of phlebitis in mumps observed by him And in the *Statistique Medicale de l Armée* for 1906 they found recorded the case of a soldier admitted to hospital for orchitis, which in consequence of an outbreak of mumps in the regiment at the time was attributed to this cause After the temperature became normal he complained of slight pain in the right thigh, and the temperature rose again While sitting up in bed he died suddenly The necropsy showed phlebitis of the veins of the spermatic cord and of the epigastric vein

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[1] Brit. Med. Jour., April 4th, 1908, p. 807.
[2] Ibid., Dec. 12th, 1908, p. 1747.

THE CHARACTER OF BENVENUTO CELLINI[1]

THE character of Cellini as disclosed in his autobiography, has ever afforded both pleasure and food for thought to psychologists The *Vita* has been criticised before, notably by Baretti, Bacci, Renier, and Paul Courbon Dr Querenghi associates himself in the main with the theory that Benvenuto Cellini inherited a nervous temperament from parents who were advanced in age at the time of his birth, that this morbid predisposition was exaggerated by the malaria syphilis, and plague from which he was known to have suffered, that his unstable mental equilibrium was shown in his criminal impulses, obsessions, absence of moral sense ideas of persecution and grandeur, and in sexual perversion Dr Querenghi is, however, at pains to disprove the accusation of homosexuality, and we think he fairly succeeds as far as the evidence in the *Vita* enables him to do so That Cellini mismanaged *and muddled his affairs is evidenced by what took* place when his celebrated "Perseus" was cast He made his furnace of pine instead of oak, nearly burned down the shed where the metal was being fused, and so miscalculated the quantity required that if he had not at the last moment thrown in his pewter pots and pans the statue would have come out headless! Dr Querenghi finds Cellini wanting in artistic perception, as shown by his criticism of his contemporaries Donatello and Bandinelli and he considers that as an artist he compares unfavourably with them, an opinion he seeks to maintain by contrasting his work with theirs This view, however, will probably not be shared by the majority of artists Evidently Cellini was utterly tactless He preferred to go out of his way to alienate his patrons and their wives, notably Pope Clement VII, the Duchess d'Etampes and Eleonora da Toledo, wife of Cosimo I In these transactions the artist appears in not a very creditable light and throws the blame on bad luck instead of his own psychological deficiency *Another characteristic of* Cellini s degeneracy is that he was "vindictive as a viper," as Baretti says, and quarrelled with almost all his friends According to Dr Querenghi the key to Cellini s mentality is to be found in self delusion, by which he exaggerated his own condition and every aspect of his life, for example, his statement of having vomited a worm a foot long, whereas the probability is that it was a small caterpillar he had swallowed with some water The alleged attempts to poison him and his fight with Gherardi come under the same category. In fact, megalomania is manifest even in the first lines of his *Vita* in which he talks of the *obligation* resting on "men who have at least done something praiseworthy" to write their own biography, an obligation which was neither felt nor entertained by his more celebrated predecessors and contemporaries in the realm of art As a result, while Cellini put down the truth as he felt it, he unconsciously drifted further away from the actual truth the more the fantastic element was present Dr Querenghi draws a comparison between Cellini and Don Quixote, and opines that if the Spanish knight had really existed and written his autobiography we should have had another *Vita* like that of Cellini This is a piece of literary criticism which strikes us as a little surprising

THE OYSTER SUPPLY.

SOME interesting facts connected with the oyster industry were brought forward at the annual general meeting of the Oyster Merchants and Planters' Association, held in the Fishmongers' Hall on March 31st It will be learnt with some dismay by the oyster consuming public that the supply of natives grows shorter year by year, and unless purely empirical methods of cultivation are soon given up in favour of scientific treatment the gourmet's favourite may disappear This is a regrettable fact and it is to be hoped that funds will soon be forthcoming and that Government help will be given in order that a comprehensive scheme of research into the conditions which affect the spatting, growth, and fattening of the oyster may soon be proceeded with The question has been taken up in France in a thoroughgoing spirit, with the result that the oyster industry there has been practically rehabilitated The matter is of considerable public importance, since the shell fish industry of the United Kingdom represents an estimated capital value round the coast of from six to eight millions, which gives employment to a large number of men and supplies a dietetic delicacy which many would be sorry to lose Another menace to the prosperity of the industry is the alarming increase of American or "slipper" limpets, particularly in the Thames estuary, which "spat" upon the oyster grounds and consume much of the food that otherwise would go towards "fattening' the native To some extent this mischief is being reduced by giving rewards to dredgerman who bring "limpets, five fingers and mussels, and other vermin ashore for hard way making and other purposes " The industry, assisted by the Fishmongers' Company, has worked hard during recent years to remove the reproach against the oyster as a source of enteric disease, and great efforts have been made to keep all beds clean and free from sewage polluted water. Excellent progress has been achieved, with the result that public confidence has been largely restored The great mass of oysters now comes from beds of certified purity, but the system of inspection needs widening The Oyster Merchants and Planters' Association has requested the Board of Agriculture and Fisheries and the Local Government Board to see that no time be wasted in getting through a rivers pollution Bill which shall safeguard the public and protect the interests of the industry They accept the recommendations of the Royal Commission on Sewage Disposal, which provided that control in all questions affecting our rivers and estuaries should be vested in river boards, with a controlling authority with power to take action to prevent the pollution of the waters. In short, the attitude of the shell-fish industry in regard to sanitary considerations is admirable, and it would be a great misfortune, now that the importance of these considerations is being realised and acted upon, if the prosperity of the industry should suffer through the neglect to make a systematic scientific study of the conditions under which the best oyster can be produced and the yield increased. There are few persons, we imagine, who do not want the supply of oysters to be pure, plentiful, and cheap. They are a valuable food.

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[1] With 16 Illustrations

TREATMENT OF TYPHOID FEVER BY TINCTURE OF IODINE.

IN the *Journal de Médecine et de Chirurgie Pratiques* for Jan. 25th of this year is an article dealing with the treatment of typhoid fever by tincture of iodine. Although the therapeutic use of iodine in this disease was suggested as far back as 1859, and reference has been directed to the matter since, notably by Dr. David Walsh in 1907, no extensive trial seems to have been made of this method. Nevertheless some observers have claimed successful results, and further trials would certainly seem desirable. Treatment based on bacteriological observations has of recent years attracted so much attention that the employment of drugs has not been so fully investigated. Dr. G. Perez has written to the above-named journal urging that the time has arrived to put this method to an extensive practical test. The employment of drugs possessing antiseptic properties has not met with great success in the treatment of typhoid fever, but it has been suggested that tincture of iodine is not only antiseptic in its action, but helps to clean the ulcers and to hasten their cicatrisation. Its use, therefore, in typhoid fever would on these grounds be indicated. In the article to which we have referred the addition of pyramidon is recommended as an antipyretic in order to replace the employment of baths for bringing down the temperature. If a good effect could be produced with the drug it would be of advantage where the use of baths is difficult. The true value of these therapeutic measures can, however, only be estimated by extensive practical experience.

THE TRANSMISSION OF SLEEPING SICKNESS BY MORE THAN ONE SPECIES OF TSETSE FLY.

EXPERIMENTAL investigations have proved that under certain conditions Glossina morsitans as well as G. palpalis can act as the insect transmitter of sleeping sickness infection. Kinghorn and Yorke in Rhodesia have shown also that not only is G. morsitans the conveyer of the disease, but also that the particular parasite of sleeping sickness in that region is T. rhodesiense, and not T. gambiense. Rodhain and others have demonstrated that G. morsitans in the absence of G. palpalis spreads the infection of sleeping sickness in Southern Katanga. As a result, some experts now lean to the conclusion that under certain circumstances various species of glossina may probably be able to transmit various species of trypanosomes; and that possibly the individual trypanosome species are not invariably associated with individual species of glossina. Another series of experiments relating to this question has recently been reported in the *Archiv fur Schiffs- und Tropen-Hygiene* for February, by Staff-Surgeon W. Fischer, of the German East African Protectorate Forces, who sought to discover if, at the altitude of the Victoria Nyanza, 4000 feet above sea level, the infection of T. gambiense could be conveyed by G. morsitans as well as by G. palpalis. For this purpose he fed G. morsitans, in groups of 100 each, on 14 infected monkeys for four days; the flies were then allowed to fast for two days, after which from the seventh to the seventieth day they were fed each day on a new healthy monkey. In 12 of the experiments the results were negative; but in two they were positive, the monkeys becoming infected. Each of the 1400 flies employed in the experiments was carefully examined after death. Three only were found to be infective, with completely developed trypanosomes in their intestines, and these had been the agents in conveying the infection to the monkeys. Twenty other flies, however, had developing trypanosomes in their gut. From these experiments it is permissible to infer that in the Victoria Nyanza region G. morsitans as well as G. palpalis can act as the vector of sleeping sickness infection.

CHRONIC MANGANESE POISONING.

IN the *Journal of the American Medical Association* of March 1st Dr. Louis Casamajor contributes a preliminary account of a syndrome which he ascribes to chronic industrial intoxication by manganese. He has seen nine patients, workers in the separating mill of a large mine, the chief product of which is zinc. Throughout this mill the air is laden with a fine grey dust, consisting of ore which contains zinc and manganese, with a negligible fraction of lead. The symptoms, which are ascribed by Dr. Casamajor to absorption of manganese through the alimentary tract, are somewhat like those of paralysis agitans; there is a similar disturbance of gait, which the patient first discovers as an inability to walk downhill slowly. The mask-like expression of face has also been noticed; the legs feel weak and shaky, there is a fine static tremor of the hands and tongue, but muscular power is well preserved and the reflexes are unaltered. There are no sensory changes, apart from deafness which is not aural in origin, and the mind shows no definite evidence of deterioration. It is the gait that is most profoundly affected, and it is noteworthy that retropulsion occurs as well as propulsion; the patient cannot walk backward, for as soon as he tries to do so he falls backward or sits down. There are no blood changes, the cerebro-spinal fluid is normal, and the Wassermann test is negative. In the urine distinct traces of zinc and manganese have been discovered. Dr. Casamajor gives reasons for attributing the symptoms to poisoning by manganese and not zinc. One of these is that zinc has never been proved responsible for systemic poisoning, and the other, that certain cases of a closely similar type have been reported among other manganese workers. He promises a fuller account of his investigations, including a record of post-mortem findings, and the subject should prove important and interesting, since it promises to add one more to the ever lengthening list of preventable diseases.

THE appointment of Mr. James Devon, L.R.C.P. & S. Edin., L.F.P.S. Glasg., as Prison Commissioner for Scotland, in place of the late Mr. T. D. M. T. Robertson, has been approved by the King.

THE BIRMINGHAM MEDICAL INSTITUTE.—The annual meeting of the members of this association was held on Thursday, March 27th, Mr. Gilbert Barling, President, in the chair. The report of the committee showed a balance on the revenue account of £56 6*s.* 4*d.* in favour of the institute at the end of 1912. In response to an appeal from the president at the previous annual meeting, the sum of £502 12*s.* had been contributed to a fund for increasing the capital of the institute, and further donations to the amount of £106 15*s.* had been promised. It was pointed out that additional support is urgently needed. A cordial vote of thanks was passed to the president for his services during the past three years, and the proceedings terminated with the election of the honorary officers for the ensuing year.

MEDICINE AND THE LAW.

Medical Practitioners and Undue Influence

A RECENT action in the Probate Division has reminded us of how easily a medical man benefiting under the will of a deceased patient may be made the subject of a charge of having taken advantage of his position to secure his own profit The charge is an odious one, and once made has to be faced The strict rights of the legatee should be insisted upon, or the accusation will be deemed to have succeeded with implied admission of its truth This was the course pursued in the litigation arising out of the will of Miss Maria Mattingley, in which the jury found, after the briefest possible deliberation, that no undue influence had been used over her by her nephew, Mr Frederick Bryan, a medical practitioner The case is of such a near date that we need only recall its salient points

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which the making of a will is spoken of, if it be discussed at all before the medical adviser, they have not the advantage as a rule of the testimony of others to the effect that the confidence reposed in them has been in no sense abused On the other hand, they are frequently the objects of the suspicion of jealous relatives Mr Bryan had a strong point in his favour in the fact that he was the nephew of the old lady whose dispositions in his favour were disputed Moreover, he was not only a near relative, but had done for her what any near *relative should do and may do without suspicion of* sinister motives in his circumstances Renewing an acquaintance with Miss Mattingley, which had for some time been discontinued, he found her elderly, infirm, and neglected, her house dirty and ill kept, and herself suffering from cancer of the breast He made an end so far as he could of these undesirable conditions, and although the case seems to have been stated against him as if, by constituting himself exclusive *medical adviser to his aunt, he had obtained influence* over her in her business affairs, he was able to call Mr W H Battle and Dr H H Mills, who at different times had seen her at his request, and to rely upon their testimony as to her mental capacity In fact, it was abundantly proved that Mr Bryan had done so much for the testatrix that, taking into account the relationship between them, it was, at any rate, not unnatural or surprising that her most recent will *should more substantially benefit him than one that preceded* it, or than one the making of which was contemplated but not signed

The law in no way forbids a medical practitioner to benefit under the will of his patient He, like other persons, must not have exercised "undue influence"—that is to say, he must not have employed any persuasion or pressure such as would prevent the testator from exercising his judgment in a proper manner, and of course he must not have taken advantage of any mental weakness As a general rule, however, apart from any question of ethics, the influence of a person standing in a fiduciary relation to a testator may lawfully be used to obtain a will or legacy so long as the testator thoroughly understands what he is doing and is a free agent, and of course suspicion must be confirmed by evidence when the general facts surrounding the making of a will are of a suspicious character Suspicion will certainly and justly arise when a will confers large benefits upon the person by whom, or by whose agent, it has been prepared, or when it markedly favours a medical man in whose house the testator was residing when it was made Neither of these two elements, however, was present in Mr Bryan's case, except to the extent that he introduced a solicitor whom he had employed himself, and whom he knew, to make Miss Mattingley's will. That lady undoubtedly asked him to do this, and gave her own instructions personally and privately to the lawyer It is interesting to note that among the well known cases in which the question of undue influence has been discussed with reference to a medical man and his patient is one in which, as in that of Mr Bryan, there was a testatrix who was the aunt of the person benefited, and was also a lady of considerable age In this case, Reece *v* Pressey, decided in 1856, the nephew was the medical attendant of the testatrix and drew up her will himself He took under it the whole of her property except £100, which went to his sister, who disputed the will He was alone with his aunt on the occasions when she discussed her testamentary intentions and wishes with him, so that his evidence as to what took place between them stood alone He stated as to this that his aunt wished him to draft the will so that it gave him everything, and that he refused to do so, suggesting that half the property to be disposed of should go to his sister, with the result that the testatrix yielded to his wishes only so far as to consent to the sister receiving a legacy of £100 There were letters to him from his aunt asking him to come and see her, and referring to business which she wished him to help her to settle, there was evidence also that she was of sound mind, though feeble in body, and eventually the court pronounced in favour of the will, which, of course, was duly signed and witnessed In another case, Jones *v* Godrich, also decided many years ago there was even more occasion to suggest undue influence, for, although the testatrix had no near relatives, she had distant ones in whose favour she had already made a will, and her medical attendant, to whom she left the bulk of her property by the will in dispute, was not related to her Moreover, she resided in his house, and was 86 years of age when she died The will nevertheless was upheld by the court, and it was laid down that in order to invalidate it there must be evidence of undue influence practised with respect to the will itself, or so contemporaneously with the making of it or connected with it as by almost necessary presumption to affect it "Flattery and obsequiousness" were referred to as methods degrading to the person using them, but not in themselves constituting such undue influence on the acts of a capable testatrix

In short, the medical practitioner to whom a bequest is made may become the subject of suspicion, but in order to deprive him of what is otherwise his lawful due a strong case must be made out, as with other legatees occupying positions of confidence with regard to the person whose will is in question It may be shown that influence has been used, but mere influence is not enough It must have been of such a degree *as to have deprived the person making* the will of the proper mastery of his or her faculties Nor do we see any ethical, as distinct from any legal, reason why a medical practitioner should not benefit to a reasonable extent under the will of a patient who may desire to express his gratitude for services rendered upon which he may set a higher value than that represented by fees, paid upon a customary scale We, of course, do not suggest *that "influence" of any kind should be used deliberately* by medical practitioners or by anyone else in order to obtain legacies The idea is repulsive to every honourable and well-balanced mind Each case of alleged influence, however, must depend upon its own facts and circumstances, which differ widely, and however hard it may seem to relatives of a deceased person to be excluded from his will it is as well to remember that not all relatives love one another, *and that the gift to a person who is not related may* be due to this rather than to any other fact A legacy to a friend instead of to a relative may simply take the place of a bequest to a charitable institution which no one could accuse of exercising undue influence Nothing has been said above as to gifts made by a person when alive to his medical attendant, or to any other person whose position of trust brings him under the suspicion of having obtained such *a donation by improper means In general, no medical* man could prudently accept from a patient under his care a present representing a substantial part of the donor's property, we refer to such a gift as in an ordinary case would not be bestowed except after death with all the formalities attendant upon the making and proving of a will At all events, on any such occasion the medical man should put himself beyond the range of suspicion by insisting upon everything being *done under competent legal advice, and in* such a manner as to secure full protection for his patient and for what is not less important in very censorious times, his own credit

Questions Arising under a Partnership Agreement

An action was brought recently in the Chancery Division by Mr W G H M Verdon against Dr R D Bell, medical men practising at Luton, in which the *former sought to test* the validity of a notice served upon him by the latter to dissolve their partnership In opening the case counsel explained that the defendant, the survivor of a partnership, had taken the plaintiff into partnership in 1909, the plaintiff paying to a retiring partner of the defendant a substantial sum in respect of a share in the goodwill of the practice. The articles of partnership stated in some detail conditions under which the plaintiff and defendant should practise together, and the notice referred to gave particulars of alleged breaches of those conditions complained of by the defendant. After counsel for the plaintiff had opened the case as stated, counsel for the defendant intimated that he thought that the matters in dispute might be arranged between the parties if Mr. Justice Warrington would give them and their counsel the opportunity to come together. Accordingly the hearing of the case was adjourned, and upon its being called on again it was announced that a settlement had been arrived at. The terms, so far as they were stated, were to the effect that the partnership should be dissolved, a substantial sum being paid to the plaintiff by the defendant; that an accountant should be called in to settle the accounts of the partnership; and that each partner should be at liberty to practise in Luton, retaining his own patients and any appointments that he might hold. All charges that had been made were withdrawn, and upon the application of counsel an order was made to stay the proceedings.

Action against Original Vendor of Diseased Pork.

In the case of Cointat *v.* T. Myham and Son, recently heard by Mr. Justice Coleridge, the jury found a verdict for the plaintiff in the following circumstances. The tuberculous carcass of a pig was seized by a sanitary inspector on the premises of Mr. Cointat, where it was admittedly exposed for sale as food, and he being convicted was fined £20 under Section 47, subsection 2, of the Public Health (London) Act, 1891. The subsequent action referred to was brought by Mr. Cointat, who had exposed the diseased pork in ignorance that it was unfit for human food, against the firm which had sold the pig's carcass to him for breach of an implied warranty that it was merchantable and reasonably fit for food. The jury found that the meat was unfit for human food, that the plaintiff had impliedly told the defendants for what purpose he was buying it from them, and that he did so in such a way as to show that he relied on their skill and judgment. The damages which the plaintiff claimed consisted, firstly, of the amount of his fine and costs, as to which the jury awarded him £36; and, secondly, were for loss of custom owing to the breach of warranty, as to which the jury awarded £200. Mr. Justice Coleridge delivered a reserved judgment upon these findings, the question being whether the damages under both or either of the two heads indicated were recoverable at law. This involved the consideration of whether they arose naturally out of the breach of the contract and could fairly and reasonably be considered to have been in the contemplation of both parties as the probable result of the breach of the contract at the time of making it. As to the damages arising out of the conviction, his lordship had little difficulty in arriving at the conclusion that they were not too remote. Absence of negligence would have been no defence to the plaintiff when prosecuted and consequently his conviction did not imply negligence on his part. There was no suggestion that the fine had been increased owing to any such negligence. Consequently Mr. Justice Coleridge held that the damages arising directly out of the conviction were recoverable, being within the principle of the leading cases on the subject of damages. (Hadley *v.* Baxendale, 9 Exch. 341; Crage *v.* Fry, 67, J.P. 240.) The question of damages arising from loss of business consequent upon the prosecution required more consideration, but after reviewing the cases upon the subject of remoteness his lordship held that the plaintiff might recover, on the ground that the loss of custom might be taken to have been in the contemplation of the seller at the time of making the contract as a reasonable consequence of a breach of it on his part. Judgment was accordingly given in the plaintiff's favour for the amount of the findings of the jury.

THE ASSOCIATION OF INFANT CONSULTATIONS AND SCHOOLS FOR MOTHERS.—The mothercraft competitions organised by this association with a view to testing the skill of the mothers attending these societies in London will take place on Saturday afternoon, April 12th (the last day of Health Week).

Public Health.

REPORTS OF SCHOOL MEDICAL OFFICERS.

City of York.—The report for 1911 presented by Dr. Edmund M. Smith (school medical officer) and Mr. E. E. Scott Galbraith (assistant school medical officer) is a clearly written, well presented piece of work, useful for both local and general purposes. Particularly to be commended is the inclusion of a section dealing with the work of the whole county, and presenting for consideration useful suggestions that have been made in other localities and which are suitable for general application. The facilities for treatment consist of a staff of three half-time school nurses (half employed as health visitors), who "follow up" cases, and of a clinic for such ailments of school children as ringworm, blepharitis, debility, and otorrhœa. An arrangement has also been made for the treatment of certain cases of ringworm by X rays at the York County Hospital. The scope of treatment is, however, to be extended by the appointment of an expert assistant ophthalmic school medical officer, a dental assistant school medical officer, and by giving facilities for the obtaining of cheap spectacles. During the year nine schools were seriously affected by an epidemic of ophthalmia, and two schools were closed from June 27th and June 30th respectively until after the summer holiday. The medical officers hope to record in the next report the establishment of an open-air school and of special classes for stammerers and for children nearly blind.

East Sussex County Council.—Mr. Alexander G. R. Foulerton reports that good arrangements for "following up" cases of defective children are made in East Sussex by arrangements with the local and county nursing associations, but the precise effect of these measures in obtaining treatment is not stated. A special report by Dr. Arthur Beeley finds that the nutrition of boarded-out children compares favourably with those in the workhouse. Mr. George Finch considers the question of the mid-day meal of children, who attend schools in the country districts and take a dinner basket to school. The dinners provided are very frequently unsatisfactory. A proposal is made to allow older girls to prepare a simple meal, and a useful menu is submitted as suggested by an evidently vigorous and alert woman teacher.

County Borough of Stockport.—The work in this town in 1911 was carried on by Dr. M. Gertrude Edis and a school nurse under the superintendence of Mr. H. E. Corbin. A "clerical assistant" also assists the medical officer during the inspections with the hope of setting the nurse free to get more treatment carried out. All the children having ringworm were kept under observation at two centres and made 702 attendances there. Arrangements for treatment, however, are not very effective. Practically no treatment even exists for defects of vision, and no treatment of any kind has been undertaken by the authority.

County of Kincardineshire.—The report of Dr. W. A. Macnaughton extends over the school year ending July 31st, 1912, and deals with the examination of 2179 children, of whom only 878 are returned as defective, including clothing and cleanliness. The standards used in estimating defects are not always, however, available in the report. A move is now to be made in the direction of "treatment," as a small Treasury grant is available for the purpose. One delightful feature of the report is that which records the effectiveness of the apparently unofficial arrangements which exist for the provision of a hot meal at midday for children at rural schools. Reciprocal services between school teachers and farmers result in good meals at trifling cost, much of the food being presented. A notice sent to a child with seriously defective vision brought the following reply, not quite to the point:

> SIR,—Send no more notices, my child is clean and healthy, and I will see that she does not attend your medical examination again.

Western Australia.—Mr. James W. Hope, principal medical officer for Western Australia, who also performs the duties of chief school medical officer, has an interesting account to give in his 1911 report of the progress of medical inspection of school children in that colony. The scheme of inspection was introduced in the year under notice, and it is hoped that within two years every child in the State will have passed under review. The total number of school children in 1911 was 35,476, and 7784 were examined up to the end of the year. The officers appointed for this work were the local medical officers of health or, in districts where no such official existed, the Government district medical officer. The central Government pays for the inspection a fee of 1*s.* per child inspected, *plus* charges for *mileage and for "sustenance."* Parents do not appear to be invited to the inspection, but they are informed of any defects found, and the intention is that if the parents are unable to provide the necessary medical treatment this shall be given at one of the Government institutions. Already the revelation of the prevalence of dental caries has led to the institution of a voluntary dental clinic, and a Government dental hospital is called for by the dentists. The plan of inspection and treatment is of a thorough character, and is partly modelled on that issued by the Board of Education in England. School nurses were appointed to assist certain of the medical officers from the beginning of the work. in some respects from ing the methods and detailed comparison is not profitable as the possible variations of opinion are so wide. But fewer serious dental defects are recorded, and more defects of vision and enlarged tonsils. Only 4 cases of phthisis were recorded in the 7784 children, and there were only 2 other cases of tuberculous disease. The children examined were distributed through 76 schools, with numbers on the roll varying from 7 to 708, the latter being one of those at Kalgoorlie; but of eeth and cleanliness) In Australia, as in m to follow as the corollary to school medical inspection. We must heartily congratulate Mr. Hope on the thorough way in which the problem of inspection has been tackled, and trust that of the mistakes and experiences of this country and of We are especially open-air school. why every school should not be an open-air school, and taxpayers, teachers, and taught be freed from the expense and tyranny of too much and too solid bricks and mortar.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 7794 births and 5636 deaths were registered during the week ended Saturday, March 22nd. The annual rate of mortality in these towns, which had been 18·0, 17·4, and 17·0 per 1000 in the three preceding weeks, further declined to 16·5 per 1000 in the week under notice. During the first twelve weeks of the March quarter of this year the mean annual death-rate in these towns averaged 16·9, against 17·5 per 1000 in London during the same period. The death-rates during the week under review ranged from 7·1 in Hornsey, 7·7 in Smethwick, 8·1 in Bournemouth, and 9·6 in Ilford and in Willesden, to 23·8 in Sto 24·4

The number recorded in the previous week, and included 451 which were referred to the principal epidemic diseases, against 439 and 464 in the two preceding weeks. Of these 451 deaths, 220 resulted from measles, 72 from whooping-cough, 67 from infantile diarrhœal diseases, 51 from diphtheria, 28 from scarlet fever, and 13 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·3, against 1·3 and 1·4 in the two preceding weeks. The deaths attributed to measles, which had been 263, 206, and 229 in the three preceding weeks, slightly fell to 220, and caused the highest annual death-rates of 2·2 in Walsall, 2·3 in Plymouth, 2·4 in Barrow-in-Furness, 2·7 in Wolverhampton, 3·4 in Wigan, 3·7 in St. Helens, and 9·1 in West Bromwich. The deaths referred to whooping-cough, which had been 78, 68, and 83 in the three preceding weeks, declined to 72, and included 23 in London, 8 in Liverpool, 6 in Stoke-on-Trent, 4 in Nottingham, and 3 in Manchester. The fatal cases of diarrhœa and enteritis (among infants under 2 years of age), which had been 76, 81, and 69 in the three preceding weeks, were 67 in the week under notice; 25 deaths were recorded in London, 6 in Liverpool, 4 in Manchester, 3 in Stoke-on-Trent, 3 in Birmingham, and 3 in Salford The 51 deaths attributed to diphtheria were 1 below the average number in the five preceding weeks, and included 8 in London, 5 in Birmingham, 4 in Manchester, 3 in Liverpool, and 3 in Barrow-in-Furness. The deaths referred to scarlet fever, which had been 29, 18, and 23 in the three preceding weeks, rose to 28; 5 deaths were registered in Birmingham, 4 in London, 4 in Manchester, 2 in Preston, and 2 in Newport (Mon.). The fatal cases of enteric fever, which had been 8, 12, and 9 in the three preceding weeks, rose to 13, and included 2 in Rochdale and 2 in Hull.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily declined from 2112 to 1556 in the twelve preceding weeks, had further fallen to 1514 on Saturday, March 22nd; 156 new cases were admitted during the week, against 183, 160, and 164 in the three preceding weeks. These hospitals also contained on the 22nd ult. 930 cases of measles, 905 of diphtheria, 284 of whooping-cough, and 43 of enteric fever, but not one of small-pox. The 1490 deaths from all causes in London were 36 fewer than the number in the previous week, and were equal to an annual death-rate of 17 2 per 1000. The deaths referred to diseases of the respiratory organs, which had been 453, 403, and 405 in the three preceding weeks, declined to 390, but were 144 above the number recorded in the corresponding week of last year. The deaths attributed to influenza, which had been 25, 40, and 53 in the three preceding weeks, further rose to 65 in the week under notice.

Of the 5636 deaths from all causes in the 96 towns, 159 resulted from different forms of violence and 366 were the subject of coroners' inquests. The causes of 47, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, Nottingham, and in 53 other smaller towns. The 47 uncertified causes of death included 9 in Birmingham, 5 in Darlington, 4 in Liverpool, 4 in Gateshead, and 3 in Southend-on-Sea.

In the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8620 births and 5792 deaths were registered during the week ended Saturday, March 29th. The annual rate of mortality in these towns, which had steadily declined from 18·0 to 16·5 per 1000 in the four preceding weeks, rose to 16·9 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these towns averaged 16·9 against 17·5 per 1000 in London during the same period. The death-rates in the several towns last week ranged from 7·6 in Eastbourne, 9·3 in Wallasey, 9·6 in Enfield and in Gillingham, and 9·9 in Willesden, to 22·6 in West Bromwich, 23·1 in Stoke-on-Trent, 23·9 in Wakefield, 24·5 in Wolverhampton, and 24 6 in Bootle.

The 5792 deaths from all causes in the 96 towns were 156 in excess of the number in the previous week, and included 410 which were referred to the principal epidemic diseases, against 464 and 451 in the two preceding weeks. Of these 410 deaths, 208 resulted from measles, 71 from infantile diarrhœal diseases, 67 from whooping-cough, 37 from diphtheria, 19 from scarlet fever, and 8 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·2 per 1000, against 1·4 and 1·3 in the two preceding weeks. The deaths attributed to measles, which had been 206, 229, and 220 in the three preceding weeks, declined to 208 last week, and caused the highest annual death-rates of 2·6 in Bolton, 2·7 in Wimbledon, 2·8 in Smethwick, 3·0 in Edmonton and in Stockton-on-Tees, 3·1 in St. Helens, 3·5 in Bury, and 4·1 in Gloucester. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 81, 69, and 67 in the three preceding weeks, slightly rose to 71 last week, and included 18 in London, 6 in Birmingham, 6 in Liverpool, 4 in West Ham, and 4 in Salford. The fatal cases of whooping-cough, which had been 68, 83, and 72 in the three preceding weeks, fell to 67 last week; 22 deaths were registered in London, 4 in Birmingham, 4 in Liverpool, and 3 each in Brighton, in Manchester, and in Newcastle-on-Tyne. The deaths attributed to diphtheria, which had been 54, 51, and 51 in the three preceding weeks, declined to 37 last week, which was the lowest number recorded in any week of the past quarter; 12 deaths were recorded in London, 3 in Birmingham, 2 in Manchester, and 2 in Leeds. The deaths referred to scarlet fever, which had been 18, 23, and 28 in the three preceding weeks, declined to 19 last week, of which number 3 occurred in Birmingham, and 2 in Leeds. The fatal cases of enteric fever, which had been 12, 9, and 13 in the three preceding weeks, fell to 8 last week, and included 2 which were recorded in Manchester.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospital, which had steadily declined from 2112 to 1514 in the 13 preceding weeks, had further fallen to 1455 on Saturday last; 168 new cases were admitted during the week, against 160, 164, and 156 in the three preceding weeks. These hospitals also contained on Saturday last 908 cases of diphtheria, 880 of measles, 290 of whooping-cough, and 42 of enteric fever, but not one of small-pox. The 1510 deaths from all causes in London were 20 in excess of the number in the previous week, and were equal to an annual death-rate of 17·4 per 1000. The deaths referred to diseases of the respiratory organs, which had declined from 453 to 390 in the four preceding weeks, further fell to 380 last week, but were no fewer than 189 above the number registered in the corresponding week of last year. The deaths attributed to influenza numbered 46, against numbers steadily rising from 25 to 65 in the four preceding weeks.

Of the 5792 deaths from all causes in the 96 towns, 219 resulted from different forms of violence, and 470 were the subject of coroners' inquests. The causes of 51, or 0·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Portsmouth, Salford, and in 65 other smaller towns. Of the 51 uncertified causes of death, 13 were registered in Birmingham, 7 in Liverpool, 4 in Darlington, 3 in Bootle, and 2 each in London, Preston, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1032 births and 795 deaths were registered during the week ended Saturday, March 22nd. The annual rate of mortality in these towns, which had been 20·7, 19·9, and 18·8 per 1000 in the three preceding weeks, further declined to 18·4 per 1000 in the week under notice. During the first 12 weeks of the March quarter of this year the mean annual death-rate in these Scotch towns averaged 19·3, against 16·9 per 1000 in the 96 large English towns during the same period. Among the several Scotch towns the death-rate during the week under review ranged from 4·1 in Hamilton, 9·8 in Clydebank, and 12·0 in Kilmarnock to 20·1 in Greenock, 20·5 in Aberdeen, and 20·8 in Leith.

The 795 deaths from all causes were 21 fewer than the number in the previous week, and included 88 which were referred to the principal epidemic diseases, against numbers steadily increasing from 65 to 86 in the five preceding weeks. Of these 88 deaths, 55 resulted from whooping-cough, 18 from infantile diarrhœal diseases, 5 from measles, 5 from scarlet fever, 3 from diphtheria, and 2 from enteric fever, but not one from small-pox. These 88 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·0, against 1·3 per 1000 in the 96 large English towns. The deaths attributed to whooping-cough, which had been 55, 49, and 50 in the three preceding weeks, rose to 55, and included 33 in Glasgow, 7 in Edinburgh, 6 in Leith, 3 in Aberdeen, and 2 in Greenock. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 7, 15, and 17 in the three preceding weeks, were 18 in the week under notice; 8 deaths were registered in Glasgow, 4 in Aberdeen, 2 in Edinburgh, and 2 in Paisley. The fatal cases of measles numbered 5, against 7, 3, and 6 in the three preceding weeks, and comprised 4 in Glasgow and 1 in Falkirk. Five deaths, of which 3 occurred in Glasgow, were attributed to scarlet fever, against 4 in each of the three preceding weeks. The deaths referred to diphtheria, which had been 5, 12, and 9 in the three preceding weeks, declined to 3 and comprised 2 in Aberdeen and 1 in Glasgow. The 2 fatal cases of enteric fever were recorded in Kilmarnock and Falkirk respectively.

The deaths referred to diseases of the respiratory system in the 16 Scotch towns, which had been 180, 185, and 144 in the three preceding weeks, rose to 166 in the week under notice; 25 deaths were attributed to the several forms of violence, against 30 and 22 in the two preceding weeks.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1218 births and 744 deaths were registered during the week ended Saturday, March 29th. The annual rate of mortality in these towns, which had steadily fallen from 20·7 to 18·4 per 1000 in the four preceding weeks, further declined to 17·2 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these Scotch towns averaged 19·1, against 16·9 per 1000 in the 96 large English towns during the same period. Among the several towns the death-rates last week ranged from 9·0 in Kilmarnock, 9·2 in Ayr, and 13·4 in Perth, to 20·1 in Greenock, 22·1 in Aberdeen, and 24·7 in Leith.

The 744 deaths from all causes were 51 fewer than the number in the previous week, and included 83 which were referred to the principal epidemic diseases, against numbers steadily increasing from 65 to 88 in the six preceding weeks. Of these 83 deaths, 44 resulted from whooping-cough, 17 from infantile diarrhœal diseases, 9 from measles, 7 from diphtheria, 3 from enteric fever, and 3 from scarlet fever, but not one from small-pox. These 83 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·9, against 1·2 per 1000 in the 96 large English towns. The deaths attributed to whooping-cough, which had been 49, 50, and 55 in the three preceding weeks, declined to 44 last week, and included 29 in Glasgow, 4 in Leith, 3 in Edinburgh, 3 in Greenock, 2 in Aberdeen, and 2 in Motherwell. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had increased from 7 to 18 in the four preceding weeks, were 17 last week; of this number 9 occurred in Glasgow, 2 in Dundee, and 2 in Aberdeen. The fatal cases of measles, which had been 3, 6, and 5 in the three preceding weeks, rose to 9 last week, and included 4 in Glasgow and 2 in Aberdeen. The deaths attributed to diphtheria, which had fallen from 12 to 3 in the three preceding weeks, rose to 7 last week; 3 deaths were registered in Glasgow and 2 in Aberdeen. The 3 deaths referred to scarlet fever were slightly below the average in recent weeks, and comprised 2 in Glasgow and 1 in Aberdeen. The 3 fatal cases of enteric fever were recorded in Glasgow, Aberdeen, and Falkirk respectively.

The deaths referred to diseases of the respiratory system, which had been 185, 144, and 166 in the three preceding weeks, declined to 154 last week; 17 deaths were attributed to different forms of violence, against 22 and 25 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,199,180 persons at the middle of this year, 546 births and 499 deaths were registered during the week ended Saturday, March 22nd. The annual rate of mortality in these towns, which had been 23·1, 23·2, and 23·4 per 1000 in the three preceding weeks, declined to 21·7 per 1000 in the week under notice. During the first twelve weeks of the March quarter of this year the mean annual death-rate in these Irish towns averaged 22·1 per 1000; in the 96 large English towns the corresponding death-rate did not exceed 16·9, while in the 16 Scotch towns it was equal to 19·3 per 1000. The annual death-rate in the week under review was equal to 21·6 in Dublin (against 17·2 in London and 19·5 in Glasgow), 25·0 in Belfast, 21·1 in Cork, 11·4 in Londonderry, 20·3 in Limerick, and 3·8 in Waterford, while in the remaining 21 smaller towns the mean death-rate was equal to 20·5 per 1000.

The 499 deaths from all causes in the 27 Irish towns were 40 below the number in the previous week, and included 36 which were referred to the principal epidemic diseases, against 38 in each of the two preceding weeks. Of these 36 deaths, 14 resulted from measles, 7 from infantile diarrhœal diseases, 6 from enteric fever, 4 from whooping-cough, 2 from scarlet fever, 2 from diphtheria, and 1 from typhus, but not one from small-pox. The 36 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·6 per 1000; in the 96 large English towns the corresponding rate did not exceed 1·3, while in the 16 Scotch towns it was equal to 2·0 per 1000. The deaths attributed to measles, which had been 16, 18, and 13 in the three preceding weeks, were 14 in the week under notice, and comprised 6 in Newry, 5 in Belfast, 2 in Cork, and 1 in Wexford. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 9, 9, and 11 in the three preceding weeks, declined to 7, and included 4 in Dublin, 2 in Belfast, and 1 in Larne. The fatal cases of enteric fever, which had been 3 in each of the two preceding weeks, rose to 6; 3 deaths were registered in Dublin, 2 in Sligo, and 1 in Kilkenny. Of the 4 deaths attributed to whooping-cough, which were slightly below the average in recent weeks, 2 occurred in Dublin. The 2 fatal cases of scarlet fever were recorded in Belfast, those of diphtheria in Belfast and Sligo respectively, and that of typhus in Dublin.

The deaths referred to diseases of the respiratory system, which had been 143, 156, and 136 in the three preceding weeks, were 138 in the week under review. Of the 499 deaths from all causes, 143, or 29 per cent., occurred in public institutions, and 4 resulted from different forms of violence. The causes of 14, or 2·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death did not exceed 0·8 per cent.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 683 births and 547 deaths were registered during the week ended Saturday, March 29th. The annual rate of mortality in these towns, which had been 23·2, 23·4, and 21·7 per 1000 in the three preceding weeks, rose to 23·8 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual deate-rate in these Irish towns averaged 22·2 per 1000; in the 96 large English towns the corresponding death-rate did not exced 16·9, while in the 16 Scotch towns it was equal to 19·1 per 1000. The death-rate last week was equal to 24·2 in Dublin (against 17·4 in London and 17·6 in Glasgow), 24·5 in Belfast, 22·4 in Cork, 20·3 in Londonderry, 27·1 in Limerick, and 32·3 in Waterford, while in the remaining 21 smaller towns the mean rate did not exceed 21·2 per 1000.

The 547 deaths from all causes in the 27 Irish towns were 48 in excess of the number in the previous week, and included 46 which were referred to the principal epidemic diseases, against 38 and 36 in the two preceding weeks. Of these 46 deaths, 17 resulted from measles, 10 from whooping-cough, 8 from diphtheria, 8 from infantile diarrhœal diseases, 2 from enteric fever, and 1 from scarlet fever, but not one from small-pox. These 46 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·0 per 1000; in the 96 large English towns the death-rate from these diseases did not exceed 1·2, while in the 16 Scotch towns it was 1·9 per 1000. The deaths attributed to measles, which had been 18, 13, and 14 in the three preceding weeks, slightly rose to 17 last week, and included 8 in Belfast, 5 in Newry, and 2 in Cork. The deaths referred to whooping-cough, which had averaged 5 in the three preceding weeks, rose to 10 last week, and comprised 7 in Dublin, 2 in Waterford, and 1 in Larne. Of the 8 fatal cases of diphtheria, which were double the average in the preceding weeks of the quarter, 6 were registered in Dublin, 1 in Belfast, and 1 in Larne. The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 9, 11, and 7 in the three preceding weeks, were 8 last week, and included 4 in Dublin and 2 in Belfast. The 2 deaths referred to enteric fever were recorded in Cork and Lisburn respectively, and the fatal case of scarlet fever in Belfast.

The deaths referred to diseases of the respiratory system, which had been 156, 136, and 138 in the three preceding weeks, declined to 122 in the week under notice. Of the 547 deaths from all causes, 170, or 31 per cent., occurred in public institutions, and 14 resulted from different forms of violence. The causes of 19, or 3·5 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeons: J. Thornhill to the *Endymion*; and H. Woods to the *Vivid*, for R.N. Barracks.

ARMY MEDICAL SERVICE.

Colonel Edmund J. E. Risk is placed temporarily on the half-pay list on account of ill-health (dated March 27th, 1913).

Lieutenant-Colonel Henry M. Sloggett, from the Royal Army Medical Corps, to be Colonel (dated March 27th, 1913).

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenants are restored to the establishment from the seconded list (dated April 1st, 1913):—Robert G. Shaw, Alexander L. Urquhart, and Avenell F. C. Martyn.

Colonel R. Kirkpatrick, C.M.G., has taken up duty as Assistant Director of Medical Services to the Abbottabad and Sialkot Brigades of the Second (Rawal Pindi) Division, Northern Army in India, in succession to Colonel R. I. D. Hackett, placed on retired pay

Lieutenant-Colonel H. P. G. Elkington, Senior Medical Officer and in charge of the Military Hospital at Shorncliffe, has been selected for the increased rate of pay under Article 317 of the Royal Warrant for Promotion. Lieutenant-Colonel A. W. Bewley, on return home from the Seventh (Meerut) Division, tour expired, has been appointed to the Northern Command for duty at York. Lieutenant-Colonel A. R. Aldridge, C.S.I., has been appointed in charge of the Medical Division of the Royal Herbert Hospital at Woolwich. Lieutenant-Colonel A. T. I. Lilly has been transferred from the Military Hospital at Colaba, Bombay, to Belgaum Cantonment. Lieutenant-Colonel S. Macdonald has taken up duty at Salisbury, on transfer from the London District. Lieutenant-Colonel L. Way has been transferred from the Military Hospital at Chakrata, Mussooree Hills, to Bareilly Cantonment. Lieutenant-Colonel R. J. Copeland has joined the Military Hospital at York. Lieutenant-Colonel F. R. Newland has been selected to hold charge of the Military Hospital at Dover.

Major C. E. P. Fowler has taken up the appointment of Instructor in Army Sanitation at the Royal Army Medical Corps School of Instruction, Aldershot, in succession to Lieutenant-Colonel A. R. Aldridge, C.S.I. Major H. W. K. Read has left Pontefract for a tour of service in India. Major S. J. C. P. Perry has been transferred from Belgaum Cantonment to the Military Hospital at Colaba, Bombay. Major A. D. Waring has been appointed to the Southern Command. Major J. W. S. Seccombe has taken up duty at the Military Hospital, Plymouth. Major A. H. O. Young has left Strensall for a tour of service in India. Major T. C. Mackenzie, D.S.O., has arrived home on leave of absence from Egypt. Major R. McK. Skinner has been appointed to the Irish Command.

Captain G. P. A Bracken has arrived home on eight months' leave of absence from Malapuram, Madras Presidency. Captain G. A. D. Harvey has joined the Royal Army Medical College. Captain E. W. M. Paine has been appointed for duty to the Western Command. Captain B. Varvill has been transferred from the Military Hospital at Quetta to Nasirabad Cantonment. Captain F. Forrest has been appointed to the Military Hospital at the Curragh Camp. Captain A. W. Gater has taken up duty at Winchester. Captain G. F. Rudkin has arrived home on six months' leave from Fort St. George, Madras. Captain R. D. O'Connor has been appointed to the Military Hospital at Lahore. Captain H. V. B. Byatt has been transferred from the Military Hospital at Poona Cantonment to Purandhur. Captain F. H. Bradley has taken up duty at the Military Hospital, Lucknow Cantonment. Captain E. M. O'Neill has been appointed to the Cork District. Captain C. R. M. Morris has been appointed to the Southern

Command. Captain W. H. Purdon has arrived home on leave of absence from Cannanore.

INDIAN MEDICAL SERVICE.

Director-General the Honourable Sir C. Pardey Lukis, K.C.S.I., has been granted combined leave of absence home from India for seven months, with effect from April 10th.

Lieutenant-Colonel B. H. Deare has been selected for appointment as Officiating Principal of the Government Medical College, Calcutta, during the absence on nine months' leave of Lieutenant-Colonel J. T. Calvert. Lieutenant-Colonel F. R. Ozzard has been granted one year's leave of absence home from India. Lieutenant-Colonel J. M. Crawford has been granted eight and a half months' leave.

Major E. C. MacLeod has been selected for appointment as a Civil Surgeon of the First Class under the Assam Administration. Major F. O. N. Mell has been granted 19 months' privilege leave home. Major J. C. Robertson has been nominated an additional Member of the Legislative Council of the Viceroy and Governor-General of the East Indies, in succession to Sir C. Steward-Wilson, K.C.I.E., resigned. Major A. T. Gage has been granted one year and eight months' combined leave of absence. Major E. F. Gordon-Tucker has relinquished charge of the Common Prison at Bombay. Major P. P. Kilkelly has been allowed an extension of furlough on medical certificate for six months. Major C. W. F. Melville has been selected for appointment as Deputy Assistant Director of Medical Services (Mobilisation Branch) to the First (Peshawar) Division *sub pro tem.*

Captain C. F. Marr has been selected for appointment as Officiating Medical Storekeeper to the Government of India at Lahore Cantonment, in succession to Major A. A. Gibbs, granted leave of absence. Captain G. T. Davy has been selected for appointment as Specialist in the Prevention of Disease. Captain F. S. Smith has been placed on special duty in connexion with serological work under Lieutenant-Colonel W. W. Sutherland. Captain M. L. Puri has been selected for appointment as Substantive Medical Officer to the 112th Infantry. Captain V. B. Nesfield has been appointed to officiate as Chemical Examiner, Government Analyst, and Bacteriologist for the United Provinces of Agra and Oudh and the Central Provinces, *vice* Dr. E. H. Hankin. The services of Captain H. C. Brown have been placed temporarily at the disposal of the United Provinces of Agra and Oudh. Captain A. W. Howlett, officiating civil surgeon at Mussooree, has been selected for appointment as Officiating Superintendent of the Central Prison at Bareilly. Captain C. C. Shaw has taken up duty as Medical Officer to the Raipur Central Jail. The services of Captain C. H. Barber have been replaced at the disposal of the Commander-in-Chief in India.

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd South Midland Field Ambulance, Royal Army Corps: The undermentioned officers resign their commissions (dated March 29th, 1913): Major Seymour G. Barling and Lieutenant Samuel G. Webb. Captain George W. Craig to be Major (dated March 29th, 1913).

Attached to Units other than Medical Units.—Captain Alfred Alwyne Hingston, from the 2nd South Midland Field Ambulance, Royal Army Medical Corps, to be Captain (dated Feb. 18th, 1813).

For attachment to Units other than Medical Units.—John Thompson Shaw to be Lieutenant (dated March 29th, 1913).

DEATHS IN THE SERVICES.

Brigade-Surgeon Charles Frederick Oldham, late I.M.S., in his eighty-second year, at his residence, Great Bealings, Suffolk, on March 23rd. He served with the Perak expedition in 1875-76, and for his services received the medal with clasp. Later he took part in the Afghan war of 1878-79; also served with the Thal Chotiali field force and again received a medal.

Surgeon-Lieutenant-Colonel Alexander Brebner, A.M.D. (retired), on March 30th, in his seventy-third year. He received his first commission in 1863 and retired in 1888. He served with the Bhootan expedition of 1865, and was present at the recapture of Dewangiri (medal with clasp).

THE RED CRESCENT SOCIETY.

The Red Crescent Society has been in existence during a comparatively short period of time, but it has already done much excellent work. Eighteen months ago it had established numerous hospitals in Cyrenaica and Tripoli, and had expended at that time about £30,000. During the present war with the Balkan Allies it has doubled its activity, and its urgent appeals in all the parts of the Moslem world have received ready and liberal response, not only from the Ottomans in Turkey but also from the Islam worshippers of India, China, Egypt, Bosnia, and other places. The Convention of Geneva and the Conference of The Hague raised the society to an "Institution de Bienfaisance Internationale," whose regulations enjoin the rendering of assistance on the field of battle to wounded enemies of the non-Moslem as well as to those of the Moslem religion. The society is administered by a council of 30 members, who unite once a year in a congress. It has a president, two vice-presidents, a general secretary, an accountant and treasurer, all of whose offices are honorary, though the enormous pressure of work has necessitated the engagement of a number of employees who draw a monthly salary. The whole organisation is under the immediate control of the Ottoman Government. About two years ago Hussein Hilmi Pasha decided to create a number of hospitals with a chief medical resident, a surgeon, a physician with two attendants, a dispenser, a certain number of assistants recruited from the students of the medical faculty, ten experienced nurses, a secretary, a cook, and three servants to each. Every patient had to be supplied with a complete outfit of linen, and all requisites were, as much as possible, according to the demands of modern medical science. The following hospitals were established: 200 beds at Cadigra, Stambul, 600 beds at the University of Haidar Pasha, and 150 beds at the school of Vefa. In these hospitals alone thousands of sick and wounded, civil and military, have received most efficient treatment. Apart from the very laudable activity developed by the society in Constantinople, it took into consideration the needs of the provinces and especially of the two main armies of the East and West that were in operation on the Balkans, and for this work the society ordered from England four transportable hospitals with 100 beds each, and from Germany five complete collections of surgical instruments. After the renewal of hostilities the Red Crescent made every effort to meet all requirements. It established at the Dardanelles a lazaretto with 250 beds, and at Gallipoli one with 150. These lazarettos are almost exclusively for the severely wounded whose transport to the capital is impossible. A special hospital for both sexes with 150 beds has been established in Pera exclusively for the wounded arriving from the different places of the coast line of the Marmora Sea. A large hospital with 1000 beds, in which the Sultan takes a personal interest, has been established at the Military School of Pancaldi.

Correspondence.

"Audi alteram partem."

HEREDITY AND TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—It may perhaps seem unbecoming to criticise the work of one who cannot answer objections, the more so when that one has but recently passed away, but there are certain conclusions in the clinical lecture of the late Dr. Theodore Williams, published in THE LANCET of March 29th, which are open to grave doubt, and the matter is one of such general importance that there need be no question of propriety in referring to these conclusions.

Briefly my objection is that, in spite of an initial warning, the more important part of the lecture shows a tendency to return to the pernicious teaching of hereditary transmission of predisposition to tuberculosis. I say pernicious not only because the doctrine is so grave in import to the general public that we have no right to fall back on it except as the last theoretical resort, but also because its tendency is to minimise, though ever so slightly, the environmental factor which we may expect to understand even more thoroughly, and over which we may expect to obtain a constantly greater control. There is at the outset of the lecture a confusion between what is meant by hereditary predisposition and congenital or antenatal infection. Scudamore's case, quoted by Dr. Williams, is an obvious example of the latter, a recognised though rare condition, and has nothing whatever to do with heredity. We see cases of congenital syphilis more often, but no one argues for a hereditary predisposition to syphilis.

While Dr. Williams's figures and generalisations as to the family relationship of consumptives may be accepted without question, they do not seem to support his conclusions (1) that both male and female phthisics transmit a tendency to the disease, and (2) that the male transmits a greater power of resistance than the female. Indeed, the transmission of a resistance against the disease, together with a tendency to it, seems somewhat of a paradox. The broad generalisation of the greater as well as the earlier influence of maternal tuberculosis has been reached by many authorities, but they have by no means drawn the same conclusions as Dr. Williams. For instance, Dörner, in an investigation on behalf of the Baden Ministry of the Interior (quoted in Köhler's "Results of Tuberculosis Research," 1911, p. 43), remarking on the same fact, concludes that it points to infective and not hereditary influence. He further finds that of children dying from tuberculosis in the first and second years of life 33·5 per cent. had a tuberculous mother, 14·7 per cent. a tuberculous father. There is no reason whatever in falling back upon vague hereditary transmissions of tendencies or specific weaknesses for an explanation of such facts.

Latham quotes Bang of Copenhagen as demonstrating that if the calves of tuberculous cows were removed at birth from their mothers it was possible to form a herd absolutely free from tuberculosis. Similarly, orphans through tuberculosis, when removed before too cumulative infection has occurred, prove as healthy as other children. We shall, I maintain, be absolutely at fault while we attribute to hereditary influences results which are clearly explicable by the cumulative effect of a tuberculous environment. The moral of which is that if we want to stamp out consumption we must begin at the beginning and remove children from infectious surroundings to some such institutions as orphanages.

I am, Sir, yours faithfully,
ARTHUR H. PRIESTLEY.
Norwich, March 31st, 1913.

THE POSITION OF THE DISPENSER UNDER THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—The great transfer of dispensing to the chemist can only result in the throwing out of employment many persons who have spent their whole time as dispensers to doctors and institutions, many of whom have spent time in study, fees at colleges of pharmacy, and have secured the dispenser's diploma of the Apothecaries' Society. The most serious reflex has not yet been felt, their appointments tending to wane rather than to terminate abruptly. They represent a class of person who are in every way better fitted to do the dispensing for the insured persons rather than the assistant and junior of the trade who have done little dispensing in the past.

It is quite deplorable that the chemist is not requiring the institution or doctors dispenser to dispense under the Act. Analysis of advertisements (in a trade journal) made by myself shows more than three times as many situations open this year than last in the chemist trade. Only 4 per cent. of the advertisements referred to dispensers and 1 per cent. for the holders of the Apothecaries' Hall diploma. My position [illegible] affected has actuated [illegible] y with the help of my [illegible] put forward to plead our c[illegible] help would be re[illegible] profession. [illegible] nt from mem[illegible] an asset and [illegible] only be used generally in the very legitimate effort to get the right to be employed to do work which has been taken from us so ruthlessly by the trade which does not wish to employ us for economic reasons since 32 per cent. of the situations are for juniors and 27 per cent. for unqualified assistants of the trade.' "The qualified chemists wanted are chiefly for supervision purposes."

Allow me to thank the profession in anticipation of their favours, I am, Sir, yours faithfully,
GEORGE REED,
Dispenser.
The Provident Dispensary, 53, Surrey-street, Croydon,
March 31st, 1913.

WHEN TO OPERATE IN APPENDICITIS.

To the Editor of THE LANCET.

SIR,—Sir George Beatson has very kindly sent me a copy of his paper on Appendicitis, so that I might obtain the information I desired in respect to the results of his 300 cases. On examining these figures I find 126 were quiescent cases on admission, and therefore do not count in the consideration of the mortality occurring in acute cases. Of the remaining 174, 10 had general peritonitis, of which 7 died; 164 were acute, of which 69 only had abscesses, and 4 died. The total mortality in acute cases, therefore, works out at 6 2 per cent., a low figure, it is true, but not so low a one as many surgeons who operate early can show, and not so low as obtained recently at St. Mary's Hospital.

In reading these figures one is struck by the rarity of cases of general peritonitis, 10 out of 174, a proportion which does not correspond with the frequent incidence in London, 19 out of 136 (St. Mary's) (15 cases in my last 57). Again, a mortality of 70 per cent is exceptionally high. I think we should all feel very happy if our experience showed that 95 cases out of 174 would quiet down without suppuration. Certainly in my experience the proportion of suppuration in acute cases (admitted to hospital) is very much higher. Nor does Sir George Beatson mention the occurrence of multiple abscesses. He has no trouble with leaking or ruptured abscesses, and one is therefore compelled to infer that the resistant power of the Scotch peritoneum is much greater than that of the English.

Sir George Beatson acknowledges the benefit of early operation, but decides that it is not practicable. With this opinion I entirely disagree. At the present time, with competent modern surgeons in every district, telephones to summon them, and motors to bring them to a case, no patient *need* be left for more than 24 hours without being operated upon, except under very unusual conditions.

I am, Sir, yours faithfully,
W. H. CLAYTON-GREENE.
Devonshire-place, W., March 30th, 1913.

JOSEPH CLOVER.

To the Editor of THE LANCET.

SIR,—In your leading article on Joseph Clover in the last issue of THE LANCET you ask if he and Lister were at the first operation under an anæsthetic in Europe. I happen to know that Lister was, and in all probability Clover was also. He was in residence at the hospital in 1846, and so would naturally see anything remarkable that was going on It may be of interest to recall that he was what is now termed the R.M.O., in those days the "resident apothecary," and my father was one of the last to be "apprenticed" to him—i.e., what now corresponds to taking out a complete or perpetual hospital attendance ticket. This was in 1847. I quite agree with your appreciation of Clover's genius. As a young man I knew him well, and almost the last anæsthetic administered by him was to a member of my family. A quiet, kindly man with a genius for useful mechanical invention and a power of thought that was remarkable Some years after his death a late colleague of mine thought he would try and improve on Clover's small ether inhaler. He was able to study all Clover's models, and being an excellent mechanic himself, came to the conclusion that he could not improve on the original pattern. I only know one real improvement, that of the [illegible] friend Sir Frederic Hewitt. [illegible] was—calm, cool and encour[illegible] help to the surgeon. In his time there were few who followed the profession of chloroformist, and the giving of anæsthetics was often a rather haphazard performance by untrained practitioners. As an expert it was no wonder that Clover had the large practice which he deservedly enjoyed for a good many years.

I am, Sir, yours faithfully,

London, W., March 28th, 1913. F. WILLIAM COCK.

THE GENITAL FUNCTIONS OF THE DUCTLESS GLANDS IN THE FEMALE.

To the Editor of THE LANCET.

SIR,—Owing to an unfortunate concatenation of circumstances my first Arris and Gale lecture, which appeared in your issue of March 22nd, was published without being properly revised. For one thing, the lecture was published a week sooner than I expected, and as a result the corrected proof can only have reached you while THE LANCET was passing through the press—probably earlier than usual owing to the advent of Easter.

Apart from verbal and other small corrections, I regret to say that there are errors in some of the figures in Table I. These, of course, make the averages at the foot of Table I. (which should really be Table II.) inaccurate, although they do not affect the general results in any way. Further, it is obvious that the section dealing with the "Clinical Observations of the Effects Produced on the Thyroid by Ovarian Insufficiency in Women" should follow that on "Effects of Oöphorectomy on the Thyroid." As I believe no one can be too careful in the matter of accuracy either of style or scientific detail, I have felt it necessary to call attention myself to what has happened rather than leave it to someone else to do so. If anyone should be sufficiently interested in the subject and desire to have the correct figures I shall be glad to furnish him with one of the revised reprints which I hope will be available shortly.

I am, Sir, yours faithfully,

Liverpool, March 22nd, 1913. W. BLAIR BELL.

A REVISED NOMENCLATURE IN PHTHISIS.

To the Editor of THE LANCET.

SIR,—Amongst the remarks you make about my article on sanatorium benefit in East Essex you say "the term 'early case' has gradually become almost synonymous with a 'favourable case,' and this is to be regretted since an 'early case' may be an acute case and quite unsuited for treatment in a sanatorium, a hospital being the more suitable institution." With this everyone must agree. Do you not consider that the time has come when the whole nomenclature in phthisis pulmonalis ought to be put on a definite footing, and that a fixed classification ought to be used throughout the country?

Now that the State has undertaken the crusade against consumption all the statistics will be of enormous value, and unless these are comparable in every respect this will be of little real value. If a committee was formed of such men, say, as Sir R. Douglas Powell, Sir T. Clifford Allbutt, Sir William Osler, and Dr. Arthur Newsholme, of the Local Government Board, a scheme acceptable to the whole profession could be formulated. The nomenclature could be adopted in the medical schools, &c., and would prove, I think, of the greatest use to those interested in sanatorium benefit. I am, Sir, yours faithfully,

J. D. MACFIE,
Tuberculosis Officer to the Essex County Council.
Chelmsford, March 31st, 1913.

AUTO-VACCINATION IN TUBERCULOSIS BY THE X RAYS.

To the Editor of THE LANCET.

SIR,—While agreeing that for a man to have a grievance is abominable, it is with no view to self-advertisement that I desire to draw your attention to the plagiarisms of the original article on the above subject contributed by me to THE LANCET in January, 1907, garbled versions of which appear from time to time as abstracts from foreign journals in the medical press of this country, where the credit for this particular research is ascribed to foreign authors, who do not hesitate to use expressions that I have found it necessary to coin, without so much as citing the source of their information.[1]

I trust, therefore, that you will pardon my writing at length on this matter. Conspicuous amongst these is a Swiss practitioner in the *Correspondenz-Blatt* of Basel, who contributes an original article to that journal "On the Conservative Treatment of Tuberculous Glands."[2] In that article he uses the expression "auto-vaccination," which has been interpolated by the translator into "some kind of auto-inoculation."

My object in using that expression was to connote a physiological as distinguished from a pathological process, such as auto-inoculation so often is, and consequently fraught with danger. While the author cites one British author (Gulland) in the usual manner, he curiously cites Dr. Peter Paterson (whom I cited in my article) without giving the clue to Paterson's article by any footnote, spelling his name in the German or Norwegian fashion (Patersen) he omits reference to my article, the one with which he seems to have been mainly concerned.

It is not for me to exaggerate the importance of my research, which has not yet been repeated in this country, but I can assert from my experience that the operation for the removal of tonsils alone would thereby be reduced 80 per cent., with the greatest advantage to the sufferers, from the point of view of restoring immunity, when applied before the suppurative stage has set in. One dare not publish them on account of the *odium theologicum* that unfortunately exists. But a careful study of the results that have been obtained in Berlin, Paris, and Basel, to mention a few, goes strongly to support my contention. Quite apart from the mere results, these researches throw light upon the lymphoid and lymphatic mechanisms of the body in their bearing upon pathological processes of an undreamt of kind, such as will before long establish "the logan stone" of our science upon surer foundations.

I am, Sir, yours faithfully,

Harley-street, W., March 31st, 1913. H. D. MCCULLOCH.

A QUESTION IN LUNACY CERTIFICATION.

To the Editor of THE LANCET.

SIR,—Dr. Robert Jones, in remarking on the slackness of justices in the matter of lunacy certification in your last issue, might very well extend his valuable advice to the medical profession in general. It is astounding how ignorant are medical men on the mere bare facts of the Lunacy Acts. It is excusable, too, since it is only in private and public mental hospitals where the practice of the laws of lunacy can be thoroughly studied. And the pitfalls are many, even to those who are in the actual practice of lunacy, so it is not surprising to learn of the errors of the unprofessional and unpaid layman, the justice. In my opinion every medical man in general practice should hold a certificate in psychology or give proof of a sound training in this branch of his profession. The provision in the Lunacy Act, 1891, on the matter of the text of this letter, was undoubtedly a convenience to meet such cases where other justices than the judicial authority had signed the reception order. And the wording of the Lunacy Act, 1891, Section 24 (3), is simple enough, for it says:—

> *A reception order made after the passing of this Act shall not be invalid on the ground only that the J.P. who signed the order shall appear to have not been duly appointed under Section 10 of the principal Act, if the order is within 14 days after its date approved and signed by a judicial authority.*

But surely it is the duty of the certifying physician to see that this is in order, for is there not a circular letter by the Commissioners in Lunacy, embodied in Archbold's "Lunacy," pointing out that all persons concerned with lunatics should make themselves acquainted fully and textually with the provisions of the Lunacy Acts? And as medical men are paid for signing lunacy certificates, and justices receive no remuneration, excepting the stipendiary, should not the former know their business, whatever may be the failings of the latter? I am, Sir, yours faithfully,

JOHN FREDK. BRISCOE.

Westbrooke House, Alton, March 31st, 1913.

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[1] Brit. Med. Jour., Feb. 10th, 1912; Ibid., March 22nd, 1913; Ibid., March 29th, 1913.

[2] xlii. Jahrg. 1912, No. 20, Basel, 20 Juli, pp. 729-741.

BREAD AND THE SPREAD OF TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—In reply to Dr. A. H. Priestley's letter in THE LANCET of March 22nd, in which he says it would be interesting to know if any investigations into bread as a source of conveyance of tubercle bacilli have been carried out, and, if so, with what result, I would refer him to some experiments by M. Auché as to the destruction of tubercle bacilli in bread. The French experimenter mixed some tuberculous sputum with dough, which was then baked. Apparently the heat of the baking destroyed the bacilli, for guinea-pigs which were inoculated with a bouillon made with some of the bread-crumb were not infected with tubercle. M. Auché, however, did not consider that the experiment proved that bread made from tuberculous dough was necessarily safe, for in the case of large loaves the central parts may not always attain the temperature necessary for the destruction of the bacilli.

I am, Sir, yours faithfully,

London, March 26th, 1913. W.

⁂ The experiments were reported by our Paris correspondent.—ED. L.

THE NUMBER OF MEDICAL MEN IN EUROPE.

To the Editor of THE LANCET.

SIR,—With reference to the paragraph with this heading in the Budapest letter quoted from the *Orvosi Hetilap*, I think there must be some error in that paragraph stating that the number of medical men in the whole of Europe amounts to about 100,000. The following are some of the latest figures that I can obtain: Great Britain and Ireland, 32,600 (authority, the Medical Directory, 1913); France, 23,657 (20,809 medical men and 2848 dentists) (authority, your own Paris letter in THE LANCET of March 29th, 1913, taken from the official figures of the Direction of Assistance and Hygiene to the Ministry of the Interior); Germany, 32,449 (authority, Professor Schwalbe's German Medical Directory, as quoted in the Berlin letter in THE LANCET of Jan. 21st, 1911); Austria, 13,202 (authority, the Vienna letter in THE LANCET of March 18th, 1911, quoting official figures). These four countries alone total to 101,908. In addition, your correspondent gives 18,270 for Italy. He does not mention Russia, Holland, Spain, Portugal, Sweden and Norway, Denmark, and other countries. The *Kuracisto* has recently stated that there are 160,000 medical men in Europe.

I am, Sir, yours faithfully,

April 1st, 1913. STATISTICUS.

MOTORING NOTES.

(FROM A SPECIAL CORRESPONDENT.)

The Tax on Old Cars.

AT a recent meeting of representatives of the Royal Automobile Club, the Automobile Association, the Institution of Automobile Engineers, the Society of Motor Manufacturers, and the Commercial Users' Association it was decided to ask the Chancellor of the Exchequer to receive a deputation on this subject. Old cars have now to pay on the horse-power as estimated by the bore of their engines, though their actual horse-power is by no means equivalent to modern engines of like size. The deputation will also urge the desirability of quarterly licences. This latter item is of importance, as at present anyone buying a car in September has to pay a whole year's licence merely for four months. It is suggested that there should be a 50 per cent. reduction in the amount of the annual licence fee for cars built during or prior to 1908, as since then engine efficiency has greatly increased.

A Concession to the Medical Profession.

The authorities at Metz, in Germany, have recently given permission to medical men to carry a small Red Cross flag on their automobiles, and have ordered that cars so distinguished shall be given precedence in traffic.

An X Ray Motor Car.

In the *Journal of the Roentgen Society* for January Dr. E. B. Hazleton describes how a complete X ray apparatus may be carried in a compartment at the back of an ordinary motor car. The one mentioned does not weigh more than a passenger, and is sufficiently powerful to demonstrate the presence or otherwise of a stone in the kidney. The dynamo is run off the clutch shaft through a special countershaft connected to it by means of a chain, the gears, of course, being in neutral. Dr. Hazleton suggests that the wires from the secondary coil may be brought into the house through a window, or (which he considers better) the X ray coil and mercury interrupter may be taken into the room and the coil be connected by ordinary flexible light cables to the terminals of the dynamo. The current, of course, can also be used for lighting a room for operations or for electric treatment, such as light baths, electro-cautery, or vibratory massage. The fitting he describes can easily be adapted to any car, and the illustrations in his paper show well the method of construction.

Enclosed Front Seats.

Recently at the Guildhall court a private motorist was fined for driving a car with the driver's seat to a certain extent enclosed. The car was a two-seated one, fitted with a hood, wind screen, and side curtains, such as many medical men drive. The magistrate remarked that he considered the case a bad one and that the owner should have the hood cut right back. The law requires that the driver should have an uninterrupted view of the traffic on either side of him, and for the driver's own sake this is certainly desirable. In the case in question the side curtains were not fitted with windows. The fitting of celluloid windows in the side curtains would have complied with the regulations. It would thus be well for all ordering cars with cape hoods to see that the side curtains are fitted with windows.

A Useful Cleaning Brush.

Messrs. Brown Brothers, Limited, have recently introduced a new Duco cleaning brush which certainly seems well adapted for cleaning motor wheels. It has a curved end, which permits the user to remove the dirt between the spokes and the brake drum and from the inaccessible parts of the car under the frame which with the ordinary brushes cannot be got at, and are, therefore, usually left untouched.

The Duval Patent Spring Plates.

Springs are made of a certain number of laminations, the number depending on the weight of the car, and as a result of their position they are exposed to a great amount of wet, with the inevitable result that rusting may set in and ultimately prevent the natural sliding movements of the leaves, which, of course, defeats the very purpose for which the springs were originally designed. To obviate this, the springs should be taken off every six months or so, dismantled, and each member separately greased. As this is a troublesome operation it is generally not done. To solve this trouble, the Southern Automobiles, Limited, of Blackheath, have introduced the Duval plates. These plates are made of non-corrodible bronze, perforated to receive a specially prepared solidified lubricant, and they are inserted between the steel plates of the springs. The result is a non-rusting flexible spring, maintaining its resiliency and ensuring comfortable travelling. The cost of fitting is about 14*s.* per spring.

The New "G.R." Doctor's Coupé.

Original features are not lacking in this car, which I recently tried on the road. This small coupé, in my opinion, is essentially of the type that most medical men really need, whether for long-distance country work or for town visiting, and is equally comfortable whether used open or closed. I found after severe testing that it would go practically anywhere where there is a road, and was also quite comfortable, vibration, even on the roughest track, being reduced to a minimum. It proved to be economical in petrol, and should be the same with regard to tyres. Those desiring high fuel economy must be satisfied with small cylinders, and, providing the driver does not mind using at times his gearbox, small engines such as that in the doctor's "G.R." coupé are as efficient as and much cheaper than larger ones. If there can be any indication from the stroke and bore ratio, there should be peculiar advantages arising from the combination of 65 mm. bore and 110 mm. stroke. The engine, which has four cylinders cast *en bloc* of these dimensions, undoubtedly develops in ordinary use greater power than would be expected from an engine of this cubic capacity, and for a coupé the body in this car is exceptionally roomy, there being ample space for three in the interior.

In fact, the car was taken for a hundred miles' run with that number. The valves are all placed on one side of the engine, and are interchangeable. The distribution gear is driven by skew gearing, the magneto is set across the front, and the oil pump is driven at the bottom end of the magneto shaft. Some makers have spoken of inaccessibility as a virtue, suggesting that the inconvenience in itself prevents the mechanism of their cars being tampered with. The Unic Company, who make this car, I am glad to note, do not think in this way: everything is get-at-able. A single screw and the magneto is disconnected; by turning a thumb-screw the plate covering the adjustable valve lifters comes away, and by undoing a casing the carburetter jets can be taken out. But it is not likely that the jets will need attention, as the filter on top of the float chamber practically prevents any dirt from entering the carburetter, and in addition there is a gauze strainer in the float chamber. Lubrication is by pump through a hollow crank shaft to the bearings of that member and connecting rod, whilst an indicator on the dashboard shows that the oil is circulating. The clutch is of the leather-faced cone type, and fierceness is avoided by laminated springs fitted below the leather on the male portion. The withdrawal mechanism is well designed, and a clutch stop automatically slows down the top shaft in the gearbox, so that the speeds can be changed without sound or jar. Four forward speeds and a reverse are provided, controlled by a lever working in a gate, a stop on the reverse obviating getting into this gear by mistake. The brakes are of the internal expanding variety, the side ones operating on drums fixed to the back wheels, and the foot brake on the transmission at the back of the gearbox. Both are most efficient, and can be easily adjusted, but I must say I should prefer a pedal-applied brake acting directly on the rear wheels, and a side lever brake on the transmission. This method relieves the transmission mechanism and universal joints of work which, with the usual pedal brake, most drivers call upon them to bear. For cooling purposes thermo-syphonic circulation is relied upon, and on the test was found most satisfactory, the engine being quite cool after a severe hill climb. The steering is very easy, and the control pedals are conveniently placed. Personally I like the accelerator pedal to the right of the brake pedal instead of between it and the clutch pedal, but a driver would soon get used to the latter position.

As a result of an afternoon spent in driving the car I consider it sufficiently fast, lively, and very comfortable. As a thoroughly and conscientiously contrived piece of work it is well worth the consideration of a practitioner in search of a car of this character. The price with a coupé body complete is £330, and the agents are Messrs. Mann and Overton, Limited, of 10, Lower Grosvenor-place, London, S.W.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 922.)

V.—THE WORKING OF THE ACT AT CARLISLE.

The County of Cumberland and the City of Carlisle.

EXCEPTING the city of Carlisle, all the medical profession in Cumberland, as far as I can gather, condemned the Insurance Bill during its passage into law. From the first, indeed, doubts were entertained in Carlisle as to whether the cloud had not a silver lining. As far back as October last five practitioners in Carlisle expressed their willingness to go on the panel and their approval of the Act. These practitioners were very severely criticised by their colleagues. The practitioners of Cumberland held out well in defence of what they considered to be threats at their professional position; none went on the panel before Jan. 1st. But the leading of the British Medical Association then failed to retain the confidence of many, and the feeling of apprehension spread. The city of Carlisle has a population of 48,000, and forms a district under the Act. But a Greater Carlisle will be incorporated in the course of a few months, and the enlarged city will possess a population of about 60,000. In the meanwhile there is a local panel formed out of the 40 or so practitioners in the city, on which there are 13 practitioners. But it seems not unlikely that these practitioners would act on different tacks if some energetic steps had to be taken. Some are far more friendly to the Act than others, and some are not popular among their colleagues. As far as I could gather, out of 13 men on the panel nine are in favour of the Act. In the county of Cumberland 120 practitioners are on the different panels out of about 160 practitioners, a larger proportion much than we find in the city, yet the county is not so much in favour of the Act as the city is. Again, the two medical representatives upon the Carlisle Insurance Committee, elected by the whole profession of the city, naturally represent the views of the majority, and so the nine medical men in favour of the Act have no elected representative upon the Committee.

A Favourable View of the Act in Carlisle.

In my previous inquiries, hitherto in the South of England, I had for the most part heard the Act abused from various points of view. Now I was to have an opportunity of meeting some of its partisans. I interviewed one of the nine practitioners on the panel, who said at once that he was pleased with the working of the Act so far. He was receiving better pay and keeping more regular hours. He had no longer the trouble of dispensing, and he was overjoyed at being liberated from the thraldom of a lay committee composed, for the most part, of ignorant working men. Under the rules of his previous club practice the club members used to pay him 3*s*.—recently raised from 2*s*. 9*d*.—per year per member. Formerly in Carlisle, he said (and I know it to be the case), there were clubs that did not pay their medical officer more than 2*s*. a year per member for medical insurance. To-day under the Act the club doctor receives, instead of 3*s*. or 2*s*., 7*s*. How was it possible, he asked, to doubt that this was an improvement? Then, again, in the case of complaints, the Medical Service Subcommittee established by the Act should give a better trial and a more impartial verdict than the committee of some club or Friendly Society. "Further," urged my informant, "once on the panel always on the panel, while under the old club system the medical officers of clubs and medical aid societies could be dismissed at any moment at the caprice of a lay committee." Considering the difficulty of earning enough to live upon when contract work only brought in from 2*s*. to 3*s*. per head per annum, I inquired how many persons he thought a practitioner should have on his list. The answer was that the practitioner should not have more than from 1500 to 2000 on his list, and that this would leave room for private practice. This figure, I understand, is one that has been generally adopted as reasonable, though the margin of time for any private practice must be slender. My next inquiry was about the attitude of patients towards himself. He said that he found panel patients more civil than the old club patients had been. The latter would seem to be saying: "I pay my club fee and you are my servant." The Act, on the contrary, imposes regulations on the insured patients. They cannot order their medical attendant about; they will hesitate to threaten to complain against him and have him dismissed, as they know that such threats are idle. I pointed out that the Act was likely to cause many private patients to become insured persons, and that this might be a serious loss to many practitioners. My informant admitted that this was undoubtedly so. He himself, he said, had lost about 30 per cent. of his private patients who were now insured persons, while he admitted that some other practitioners in Carlisle had lost at least 50, and perhaps even 70, per cent. of their private patients. He summed up this situation, however, by saying that formerly not only private patients failed to pay, but even clubs and medical aid societies occasionally came to grief. Under the National Insurance Act he expected to make no bad debts.

Panel Practice and Scientific Progress.

Calling on another practitioner, who from the first had pleaded in favour of the Act, he told me rather ruefully that it kept him terribly busy. The Act was undoubtedly a great improvement on the old order of things. It was quite evident, he thought, that it would do a great deal of good, but his premises were now so crowded that he very much feared he would be compelled to get a new house. Beneath the complaint of this practitioner I thought that I detected a certain satisfaction with the condition of things. The next practitioner on whom I called had his house full of patients. They were being accommodated practically all over the house, and it was a matter of some difficulty to find a chair on which to wait for a favourable moment to speak to this overworked panel doctor When I met him he gave me his views at once He had more work to do now the Act was in force, and "such a number of trivial ailments" He had not more visits to pay, but so many insured persons came to see him at his surgery When he told them there was nothing the matter they replied that they were very glad to hear it They did not really think they were ill, but as they had been paying insurance money they thought they might as well come and make sure In that manner they would get some return for their outlay Then there was the signing of the certificates that entitled insured persons to claim sick allowance and the various benefits These certificate forms were not uniform, but differed with the different approved societies Each society would insist on complicating matters by having its own form There was not one certificate to say that a man was fit to return to work and another to say that he was not fit [illegible]

[illegible] developments and progress of science With a private practice no panel doctor should have more than 2000 names on his list, said this gentleman, and they must all be living within two miles or so The Act would do great good, he thought, to many poor people, but it would hinder the scientific progress of medicine The panel practice would fall, he feared to the level of the old club practice, the practitioner would get wearied out by trivial cases The best hope for medical science lay in the fact that some insured persons were not availing themselves of their red cards, but remained private and paying patients Here, then, was a partisan of the Act who was prospering as a panel doctor, but who nevertheless saw that there were dangers, and that medical men who devoted themselves solely to contract work were not likely to render much service to science, so deadening would be the routine, and perhaps so arduous the work

An Income Doubled under the Act

My next interview was with one of the most successful of the panel doctors, at least so I judged him to be He was hardly able to realise his own good fortune When once he understood the purport of my visit he conducted me to the window and begged me to look at a powerful motor car standing outside his door He had scarce worked under the Act for two months, and already he could buy a motor regardless of expense He had been making about £600 a year in private practice now he had some 2500 insured persons on his list, bringing him in about £900 It was true that his private practice had decreased by one-third, two thirds remained, and the third who had become insured patients was not all loss, as they had come to him as their panel doctor The Act, said this practitioner, was a splendid measure so long as the principle of the free choice of doctor was strictly maintained Formerly contract work was *parcelled out by the clubs The medical practitioners* had to pay court to committees of management, the patients had little or no voice in the matter Now any practitioner who really wanted to work had a fair chance He had only to make himself popular It was true they were having a lot of trouble in getting the service started Newly insured persons came with trivial ailments for the novelty of the thing, but that would all wear out, and if surgery attendance had much increased visiting patients at their own homes had not, and that was a most important side of the question A rumour had been circulated that if insured persons did not get their red tickets at once they would not be able to obtain medical attendance Consequently, some 300 persons came to him on one single evening, blocking up the street The popular doctor signed the red cards in batches of 50, telling the owners to come back on another occasion to give the details This continued for several nights, but a great many who obtained his signature on their cards never gave themselves the trouble to return, so that he really does not know even the names of all those who may call upon his services "But this does not matter," he added, "I do not need a formal introduction, for, thank goodness, I have no patients who stand upon unnecessary ceremony They are going to be much more reasonable to manage than private patients were Three or four people can be seen in the time one private patient would take up. Then they take your word and readily submit to be examined, there is no bother, no lengthy explanation is needed, we can treat the disease and not the people"

Malingering

There was a phase of the work, however, which this cheerful informant viewed with apprehension, and that was malingering There were so many men who, having passed mid life, did not want to work, so they "had pains in the back" These are the cases that make it possible that the panel doctor who most readily grants certificates of sickness will acquire an unfair advantage—that is to say, that a certain class of patient will desire not to be treated by a medical man who looks very closely after malingering The difficulty may have to be met by the appointment of medical referees An insured person would not be allowed to change his medical attendant if he had been sent to a referee for malingering and the charge had been made good In regard to the wage limit, he did not think he had more than two patients whose incomes exceeded £102 a year, and who had come since January to be treated as insured persons There were so few above this proposed wage limit that he did not think they were worth bothering about Finally, he freely recognised he had been much abused by his fellow practitioners—they had even called him a scoundrel, but for all that he was very grateful to Mr Lloyd George and the Insurance Act The Act had been denounced as Socialism, but it was not a question of Socialism or anti Socialism, for those were political matters What they had to think about was the sick, especially the sick poor Would the medical profession be able to give more attention to the latter than they had done previous to the passing of the Act? He maintained that the poor would get a great deal more attention than formerly, and to call this Socialism would not make it any the less beneficent

The Working Class and the Act

I went also among the poor themselves to see how they responded to such sentiments It must be confessed that I did not find the Act was popular among many of the working class of Carlisle They complained that the work of administration is much more complicated than it was with their old clubs and Friendly Societies Perhaps it was only just to pay the administrators better, but this did not make for economy There was a great amount of unnecessary red tapeism, and the insured and those who were managing affairs were smothered with literature What was wanted was simplicity and more effective management When the workmen organised and managed methods of insurance among themselves they did the work without so much bother and so many complications One thing, however, the Act has done for the working classes in the Carlisle district It has greatly strengthened the Gas Workers and General Labourers' Union The Northern District Branch of this far reaching union of workers had attempted to start a benefit fund of their own, but were *not very successful* To-day, the benefit fund of this trade union has obtained recognition under the Act as an Approved Society Having thus become a State institution, any number of workers who hesitated to join have now come in, and this the working classes consider a great advantage But so far as the medical aspect of the case is concerned they are less appreciative They all instinctively see the advantage of the free choice of doctors, but they do not fully appreciate the harm that club practice did Again, they are feeling somewhat resentful against the general hospital, where treatment and admission are not so readily granted Patients are now frequently referred back to the panel doctors The workmen, who claim that they have subscribed liberally to the upkeep of the hospital, now threaten to withdraw their support, a difficulty which has always been foreseen For this, it must be remembered, is not a new trouble, but the working of the Act has necessarily accentuated it, as the hospitals all over the country have been compelled alike to sift the cases in the out patient departments, and to withstand the pressure upon their beds The finances of the Carlisle General Hospital, like those of many analogous institutions, are not at all flourishing Some fear that it may be necessary to municipalise the hospital In that case the medical *staff* would have the right to insist on being paid, and the cost would be greatly augmented The ratepayers therefore view this prospect with considerable apprehension. All over the country the workmen's contributions have been magnified in importance, and the charitable spirit that should influence such subscriptions has been obscured. Carlisle is experiencing this difficulty.

Of course, as the figures given above show, the majority of the medical practitioners in Carlisle do not approve of the Insurance Act. But so far I have heard so much against the Act that I think it right to repeat what those who are in favour of the measure had to say. This accounts for my somewhat one-sided relation of what I heard and saw at Carlisle.

(*To be continued.*)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Institutions and Insured Resident Officers.

AN important letter has been received from the National Health Insurance Commissioners regarding a "problem" which was discussed by the Salford board of guardians lately in reference to the treatment of resident officers who became non-resident during sickness. The general purposes committee of the board, with one dissentient, resolved to recommend that resident officers who remained within the institution be paid their full salary and required to refund the amount equivalent to the full amount of sick pay received from their Approved Society. In the case of officers preferring to leave the institution for treatment during sickness, it was recommended that they be paid their full salary and required to refund a sum equivalent to one-third the amount of the sick pay received under the Insurance Act. In reply to a letter from the dissentient guardian, the Commissioners state that the payment of wages during sickness, except under the provisions of Section 47 of the Insurance Act, is a question of private contract between the employer and employee, and is not affected by the operation of the Act. The fact that an employer pays contributions under the Act does not relieve him of any liability in respect of such contract, and no refund could legally be demanded on account of any benefit which the insured person had received.

An Analysis of Children's Diseases at Three Stages.

Mr. E. D. Simon, in an interesting address delivered in Manchester on what he called "Religion and Civics," differentiated three stages at which we have information as to the health of the child. These three stages, he said, were (1) the report of the medical officer of health on infant mortality; (2) that of the medical officer of the education committee as a result of inspecting children at the age of five when entering school; and (3) the result of inspection when they left school. In 1911, out of every 1000 children born in Manchester 156 died within the first 12 months. In middle-class families, where children had proper treatment, deaths within the first year were comparatively rare. As to illegitimate children, the death-rate in one district was more than 500 per 1000 of the illegitimate children born. A high death-rate meant a high damage rate, for one in every four inspected at the age of five proved to be suffering from comparatively serious ailments of the skin, eyes, ears, or breathing passages. It was found that 17,000 out of the 100,000 school children had "thoroughly bad" teeth. Infant mortality was largely due to the fact that the slum mother did not know how to give her child even those advantages open to her. For the majority of children the private dentist did not exist. The report of the Dental Hospital showed that of the 17,000 school children with thoroughly bad teeth only 100 were treated at that hospital. If a child had ringworm the mother had to lose half a day in visiting and waiting at a hospital. Money was spent in finding out what was the matter, but no attempt was made to put things right. Hence the speaker urged the establishment of school clinics.

April 1st.

DONATIONS AND BEQUESTS.—Contingent on the death or remarriage of his wife, the late Mr. Richard Stanway has left £1000 to the Eden Cottage Hospital, Broad Oak, Essex.—*Sir John Ramsden* has contributed £1000 to the fund for the extension of the London School of Tropical Medicine.

WALES.

(FROM OUR OWN CORRESPONDENT.)

The Health of Workers in Pitch.

THE manufacture of patent fuel from pitch and coal dust is an increasing industry in South Wales, and especially in the neighbourhood of Swansea. The men who are employed in certain processes have been found to suffer from warty growths which in some instances have taken on an epitheliomatous character, and in certain instances the eyes of the workers have been affected. Reports which had been received led the Home Office to consider the desirability of scheduling the industry as a dangerous trade, and in the summer of 1911 a long inquiry was held in Swansea and Cardiff with a view to ascertaining the extent of the mischief done. No definite decision was arrived at as the result of the inquiry, as it was considered desirable to ascertain what would be the effect of carrying on some of the processes under cover and of providing bathing facilities for the men on the works premises. Several owners of works undertook to make the necessary structural alterations and a few of the men volunteered to make use of the bathing facilities. At a further inquiry recently held at Swansea and Cardiff the results which had followed these experimental safeguards were disclosed. The carrying on of the work under cover seems to have been successful, for the manager of one works where a large shed had been erected stated that since its erection there had been no case of the disease among the men employed there. The encasing of machinery and the more regular sweeping of the workplaces with a view to lessening the amount of dust scattered about appears to have had a good effect, but the bathing at the works has met with a great deal of opposition from some of the men, although in this connexion there was a difference of opinion among the men employed in Swansea and in Cardiff. The men's representative in Swansea said that the provision of baths had been greatly appreciated, and he considered they had had a beneficial effect, for the men who regularly bathed had become free from warts and their skin generally had improved. The Cardiff workmen, on the other hand, were opposed to the bathing at the end of the day's work, for they contended that it produced an acute burning sensation, especially on sunny days or when there was a cold wind. Some of the men declared that they would give up the work if compelled to have baths at the works. This difference may possibly be due to a different form of pitch being used in the two districts. It transpired during the inquiry that Mr. H. Campbell Ross was conducting some investigations into the relative action of different forms of pitch, and had already found that pitch made from Scotch coal was less deleterious than that made from the South Wales coal, and that there was a difference between blast-furnace pitch and gasworks pitch. It is probable that the results of his further investigations will be awaited before any decision is come to by the Home Office as to regulating the industry.

Sanatoriums for Wales.

An important part of the scheme of the Welsh National Memorial Association is the erection of sanatoriums in different parts of Wales. The association has already taken over the only two at present in use—the West Wales Sanatorium at Alltymynydd, near Carmarthen, which was opened in the summer of 1909, and a small institution in the Isle of Anglesey which it is now proposed to enlarge. A new institution is to be erected at once at Bangor for North Carnarvonshire, and another for South Carnarvonshire and Merionethshire near Barmouth. For Cardiff there are now in course of erection buildings at Glan Ely, and it is anticipated that in a few weeks they will be sufficiently advanced to allow of the admission of about 50 patients.

Isolation Hospitals in Glamorgan.

A noticeable feature in the recently issued report by the medical officer of the Local Government Board on the incidence in England and Wales of notifiable infectious disease during 1912 is the large number of cases of scarlet fever which occurred in Glamorgan. In the whole of Wales the rate per 1000 inhabitants was 3·35. In Aberdare it was 12·5 per 1000, in the Rhondda Valleys 6 per 1000, and in Ogmore and Caerphilly 7 per 1000. In recent [illegible] the Gelligaer urban district near Merthyr, where there is a population of nearly 40,000, a new hospital costing £12,000 has just been opened, and as there were 110 cases of scarlet fever in the district last year it would seem to have been established none too soon. Aberdare is very ill-provided with means of isolating cases of infectious disease, a small wooden building being the only available institution, although last year no fewer than 635 cases of scarlet fever were notified to the medical officer of health. A few years ago plans were prepared for a much larger hospital [illegible] further steps were taken with [illegible] a suitable site. [illegible]tion have now, however, been successful, and a site has been obtained at a cost of £8750.

April 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

County of Aberdeen and Sanatorium Treatment.

AT a conference between the public health subcommittee of the Aberdeen county council and representatives of the public health authorities of the county from the several burghs and district committees, held recently in Aberdeen, it was decided that sanatorium treatment should be undertaken for all persons requiring such treatment, including insured persons and their dependents, also uninsured persons. It was also decided to appoint a tuberculosis officer for the whole county. Representatives were present from Peterhead, Fraserburgh, Rosehearty, Ellon, Old Meldrum, Kintore, Inverurie, Ballater, Turriff, and Huntly, and from the district committees of Deer, Ellon, Garioch, Turriff, Aberdeen, Alford, and Huntly. With regard to the sanatorium question, only the four representatives from Turriff voted for an amendment to the effect that the negotiations be delayed in the meantime.

Lanarkshire Scheme for a Sanatorium.

A joint scheme for providing a dispensary service and sanatorium for the prevention and treatment of tuberculosis under the National Insurance Act has been considered by representatives of the burghs of Airdrie, Coatbridge, Hamilton, Motherwell, Rutherglen, and Wishaw, and various recommendations have been made. These include that a tuberculosis officer be appointed, at a salary of £500, to advise and assist the local authorities in arranging the details of the joint scheme, and to act as superintendent of the sanatorium when erected. It is suggested that such an officer should attend at least once a week at the hospital or dispensary in each burgh and in emergency cases when required. That otherwise the medical officer of health should carry out the work in each burgh, and be responsible to the local authority for the local organisation and the treatment of patients in the hospital. A subcommittee to whom the matter was referred agreed that provision should be made for 100 beds, and considered that a site of from 15 to 20 acres would be necessary, with the right to lease ground adjoining for the purpose of providing work.

Aberdeen Maternity Hospital.

At the first annual meeting of the Aberdeen Maternity Hospital the report for the year was presented. It states that the directors and representatives of the Approved Societies have been conferring, and it was hoped that an early and satisfactory arrangement might be come to, so that those obtaining benefit under the National Insurance Act might have attention either from the outdoor or indoor staff of the Maternity Hospital in return for adequate remuneration under the provisions of the Act. The directors are of opinion that meantime a charge of 10*s.* should be made for each case treated in the hospital, and 7*s.* 6*d.* for each case treated in the district; special cases to be specially arranged for with the societies. This arrangement may involve the appointment of a certificated nurse to attend specially to the outdoor cases. No progress could be reported with regard to obtaining some substantial assistance from the University, whose students benefit so largely from the teaching and practical training furnished by the hospital. They were hopeful, however, that some help might be forthcoming. 221 cases were treated during the year, an increase of 16 on the previous year, and 232 cases in their own homes, an increase of 5. All the outdoor cases were attended by the nurses of the hospital in addition to their indoor work. Forty-three students had attended the practice of the hospital, indoor and outdoor. From May 31st to Dec. 31st the expenditure exceeded the income by £143 2*s.* 3*d.*, and the expenditure from Jan. 1st to May 31st prior to the disjunction from the Aberdeen Dispensary exceeded the total deficiency on the ordinary working by £263, the total deficiency of the year being £407.

New Prison Commissioner.

The King has been pleased on the recommendation of the Secretary for Scotland to approve the appointment of Mr. James Devon, surgeon to His Majesty's prison in Glasgow, to be a Prison Commissioner for Scotland in place of Mr. Trotter Robertson, deceased. Mr. Devon is a native of Glasgow, having been born in the Calton in 1866. His early days were occupied with various activities, among his occupations being service in a house-factor's office and in a Bridgeton factory. He devoted his leisure to studying medicine, and in 1893 he became a qualified medical man. He was a house surgeon in the Royal Infirmary, Glasgow, and later assistant in the pathological department there. His first outside appointment was as assistant medical officer in the city poorhouse, and in 1895 he was appointed medical officer in Duke-street prison. In 1901 he became one of the three medico-legal examiners to the Crown in the Glasgow district. His promotion to the high office of Prison Commissioner will be very popular and is felt to be highly deserved. Mr. Devon has earned wide distinction as an authority on criminology, and has lectured extensively on the subject to the Royal Philosophical Society of Glasgow and other bodies. His book, "The Criminal and the Community," published in 1910, is a valuable work on prison management and criminology.

Glasgow Hospital Sunday Fund.

At the nineteenth meeting of contributors to this fund it was reported that the income of the fund for the year amounted to £4623, a decrease of £136 as compared with the preceding year. The sum set aside for allocation was £4410, and, as in previous years, a division was made in proportion to the number of fully occupied beds in each infirmary. The Royal Infirmary, with 638·2 beds, got £1946 15*s.* 7*d.*; the Western Infirmary, with 553·5 beds, got £1688 8*s.* 2*d.*; and the Victoria Infirmary, with 254 beds, got £774 16*s.* 3*d.*

Aberdeen Dispensary.

The annual meeting of the subscribers to the Aberdeen Dispensary and Vaccine Institution was held recently. During the year 9310 cases, as compared with 13,129 the previous year, have been treated, the decrease being probably in some measure due to the charge of 2*d.* now being made for medicines, and also partly to the fact that in 1911 there was an epidemic of measles. The number of patients treated in their own homes during the year by the general staff of the dispensary was 2355, compared with 3053 the previous year. The number of visits paid was 5951, compared with 7914 in 1911. Seventy vaccinations and revaccinations were done, a decrease of 7. 327 dental operations were performed, compared with 427 in 1911. Special ear, nose, and throat cases numbered 900, being a decrease of 123. 31,002 prescriptions, as compared with 47,292, were dispensed. The charge of 2*d.* now exacted for each time medicine is dispensed brought in £184 11*s.* 4*d.*, going a considerable way to meet the cost of medicine, which was £286 8*s.* 9*d.*, £46 1*s.* 3*d.* less than in 1911, thus showing a considerable decrease all round. To the post of medical officer, rendered vacant by the retirement of Dr. W. F. Croll, Dr. Middleton Connon, late of Montrose, was appointed.

April 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Medical Benefit.

THE committee appointed to inquire into the desirability of extending medical benefits under the National Insurance Act to Ireland met for further sittings in Dublin on March 26th, when Mr. D. A. McCurdy, of Londonderry, Mr. W. J. O'Sullivan, of Limerick, and Mr. S. B. Coates and Mr. T. A. Davidson, of Belfast, were examined. Afterwards a conference took place between the members of the committee, the Irish Insurance Commissioners, and the members of the Conjoint Committee of the Irish and British Medical Associations. Lord Ashby St. Ledgers, the chairman, said that the Chancellor of the Exchequer had told him distinctly that all he could give for medical benefit in Ireland was the same as in England, 7*s.*, to pay for certificates, and medical and tuberculosis benefit, but exclusive of medicines and appliances. The suggestion was then made that in Ireland the medical practitioners should for this payment attend not only the insured but also their dependents, a proposition which the representatives of the Conjoint Committee absolutely refused to entertain or even to put before the profession, as they knew it would be useless to do so. The committee then explained that for the present their idea was simply to recommend the extension of medical benefit to the six county boroughs—i.e., Dublin, Belfast, Cork, Limerick, Londonderry, and Waterford—but they would like to include the dependents. They pointed out that as no more money was available from either the Treasury or the employers, the only other source was the insured themselves, and they asked if the Conjoint Committee would join in a round-table conference in London with the Treasury Committee and representatives of the Friendly and Approved Societies to see if some scheme could be suggested. If the Approved and Friendly Societies got their members to add an additional 1*d.* per week, the total sum for each insured person would be 11*s.* 4*d.*, and if from this was deducted 10*d.* for medicine, &c. (in addition to what is already estimated for medicine—i.e., 2*s.*—in addition to the 7*s.*) a sum of half a guinea would be available for medical practitioners for attending each insured person and his dependents. The Conjoint Committee agreed (after private consultation) to take part in this London conference, but said they could make no promises for the profession until that body was first consulted; so the matter is to be brought before the Local Medical Committees of the six county boroughs this week. Whether the profession in these towns will agree on any fixed rate is doubtful. In Belfast the profession have already decided that they would accept the same rates as in England —that is, 7*s.* for each insured person—and that they would attend each of the dependents at the same figure.

The Certification Scheme.

The scheme of payment for the provision of medical certificates under the National Insurance Act has been the subject of discussion in medical circles all over the country during the past week. There is a general feeling that the rate of remuneration is inadequate for the duties required. The decision whether to go on the certification panels or to decline has been left by the Conjoint Committee to the Local Medical Committees, who are summoning meetings of the profession to decide the matter for each area. Most of the meetings held up to the present have decided against the scheme—for example, county Dublin, county Tyrone, Queen's County, North Tipperary, county Cork, county Westmeath. On the other hand, some of the city areas, notably Belfast, Londonderry, and Cork, have agreed to form panels. Limerick has refused. It is curious that the chief opposition to the scheme comes from the rural areas, where the rates of payment offered are the highest. This opposition is probably due to the fact that in the country districts the Poor-law medical officers fear a large increase of work if they undertake the responsibility of certification. In the cities both Poor-law medical men and Friendly Society practitioners feel that almost any system of payment would be better than the present confusion. There is no denying the fact, however, that the scheme has given rise to acute differences of opinion in the profession. Some of the more extreme of the country dispensary practitioners interpret the qualified approval given by the Conjoint Committee to the certification scheme as an abandonment of their interests, and at a meeting held in Dublin last week they repudiated the Conjoint Committee as the executive of the profession.

The Royal Victoria Hospital, Belfast.

At the 120th annual meeting of the supporters of this hospital, held on March 26th, it was reported that 3321 new cases had been treated in the wards (2183 surgical and 1138 medical) during the past year, while in the extern department 32,658 patients had attended. Financially, the total receipts for the year were £16,514, as against £16,738 in the previous year, while the expenditure was £16,587, as against £16,394. The workmen's subscriptions, which had increased during the first six months, showed a decline at the end of the year.

The late Mr. Wm. John Meharry.

I regret to announce the death in his seventieth year of this well-known Belfast medical practitioner, which took place at his residence on March 30th. A county Down man, Mr. Meharry was at first in business in Liverpool and London, but in 1877 he returned to Belfast, and under his late brother's direction and advice (Dr. Hugh Meharry) he entered Queen's College, Belfast, as a medical student, and in 1883 became a Licentiate of the Royal Colleges of Surgeons and Physicians of Edinburgh. For 28 years he was, to the entire satisfaction of the Belfast guardians, apothecary under the Poor-law board. Mr. Meharry had a large practice and was deservedly popular.

April 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Congress of Gynæcology, Obstetrics, and Pædiatry.

THIS Congress was held at Lille from March 25th to 28th. Professor Pozzi, who presided at the opening meeting, pointed out that gynæcology, obstetrics, and pædiatry pursued a common end, the conservation and amelioration of the race —conditions indispensable to national greatness. M. Delasalle, mayor of Lille, welcomed the delegates, and after Professor Oui, the secretary-general, had delivered a brilliant address, Professor Bar, on behalf of the Société d'Obstétrique et de Gynécologie Française, proposed the formation of an association of French-speaking obstetricians and gynæcologists, which was unanimously adopted. In the scientific proceedings papers were read by M. Puech and M. Vanverts on Tumour of the Ovary in Relation to Pregnancy, and were discussed by M. Barnsby, M. J. L. Faure, M. de Fourmestraux, M. Muret (of Lausanne), M. Jullien, M. Le Nouène, M. Jokelmann-Bach, M. Jayle, M. Walther, and M. Pinard. Malignant chorio-epithelioma was considered in papers by M. Proust, M. Bender, M. Polosson, and M. Violet—first the pathological anatomy and pathogenesis, then the relation of chorio-epithelioma to gestation and teratomata from a clinical standpoint, with a description of the diagnosis, evolution, prognosis, and treatment. In the ensuing discussion M. Wallich, M. Bégouin, M. Violet, M. Proust, M. Bender, M. Keiffer, and M. Pinard took part. The members of the Congress were then divided into two groups, one of which visited the Maternité and the Charité, the other the St. Sauveur Hospital. On Wednesday the president, Professor Pozzi, gave a very successful reception, and Thursday was devoted to a visit to the mines of Lens and Auiche.

Exchange of Professorships.

M. Hartmann, professor of operative surgery at the Faculty of Medicine of the University of Paris, was transferred on March 1st, at his own request, to the chair of Clinical Surgery at the same faculty.

The Treatment of Tuberculosis by Marine Micro-organisms.

At a recent meeting of the Académie des Sciences M. Raphael Dubois stated that some years ago he had kept alive for 10 months guinea-pigs previously inoculated with cultures of the tubercle bacillus by injecting into them during the period of glandular enlargement cultures of a micrococcus taken from the pearl capsules of certain shellfish found on the sea-shore at Hyères M Dubois announced that he intended to resume his experiments

The Hygiene of Barbers' Shops

M Marc Langlais has undertaken to make a study of the number of microbes to be found in shaving brushes, combs, hair brushes, and other implements of the barber Many barbers becoming interested in the question and wishful to learn a simple method of rendering their apparatus aseptic, applied for information to the Institut Pasteur The reply was reassuring It appears that the microbes found by M Langlais are for the most part innocuous Simple methods of disinfection consist in a slight flaming of metal combs and razors Shaving brushes should be soaked in an antiseptic solution A formol heating steriliser similar to those used by surgeons for their instruments is recommended

Congress of Medical Students

The delegates from all the incorporated associations of medical students and three representatives of general associations were present at the first congress organised by the Federation of Incorporated Associations of France Various resolutions were carried first, to oppose, by legal recourse if necessary, the exemption from the baccalaureate , secondly, to demand that in principle appointments as interne of the hospitals shall be reserved for French students in the provinces particularly, except where French candidates are insufficient in numbers , thirdly, one relating to the organisation of the clinical appointments (*stage médical*) in the hospital services [illegible] the number of patients, in the proportion of one *stagiaire* to each six or eight patients Finally, the fourth demand is that the fifth year shall be freed from all laboratory work and exclusively devoted to clinical work , that the work to be done in the first four years and the examinations corresponding thereto shall be conducted on really practical lines, and not be allowed to degenerate into theoretical examinations to the detriment of the clinical examinations , and that the dates of examinations shall not synchronise with those of the competition for the Assistance Publique The questions concerning foreign students in France and the consequences of the prolongation of military service for medical students also formed the subject of interesting discussions

The International Town Life Exhibition of 1914

It has been decided by the city of Lyons to organise a town life exhibition there from May 1st to Nov 1st 1914 In this international exhibition the vast subject of collective life in the modern town will be demonstrated The exhibition will deal with the requirements of hygiene of transport the culture of man, puericulture, school, instruction work disease, tuberculosis alcoholism, old age invalidity and industry The following is a list of the sections statistics and demography , street control and modes of transport , drinking water , surface waters and the purification of water , evacuation of the solid residues , dwellings , furnishings , lighting and electric lighting , ventilation, heating, and refrigerating , foods of animal origin , milk and its derivatives , foods of vegetable origin , hygienic drinks , adulteration and inspection of food stuffs , mineral waters , special chemical hygienic products , infant protection and puericulture , school ; military hygiene , bodily hygiene and cleanliness , primary and secondary instruction , superior instruction , technical and professional instruction , the hygiene and protection of work , social economics , police of towns and police laboratories , infectious diseases , disinfection , organisation of public health in various countries , the departmental health services , assistance and the hospitals , the struggle against tuberculosis , the struggle against alcohol , touring , physical culture and sports , the arts , photography , books, posters, and newspapers , horticulture , electricity (other than lighting) , the postal, telegraph, and telephone services All exhibits relating to social or economic science will be admitted free, commercial exhibits alone being subject to duties

March 31st

BERLIN.

(FROM OUR OWN CORRESPONDENT)

Unusual Combination of Clerical and Medical Functions

THE ecclesiastical and medical authorities of the Province of Saxony have recently had to deal with an unusual problem in medical ethics A medical man in a small country town complained to the medical chamber of the province that the clergyman of a neighbouring locality, who had been a qualified medical man before he entered the ecclesiastical profession was now undertaking medical practice and recovering fees, which were spent by him for benevolent purposes Before this clergyman was appointed to his present parish there had been no medical man resident in it, and patients had consulted the complainant, who lived not far away The complainant had, however, lost nearly all this portion of his practice, and things became worse when the clergyman was appointed honorary medical officer of the locality together with the medical man of the town The medical chamber accordingly transmitted the complaint to the ecclesiastical authority of the province with a request that the clergyman should be prohibited from accepting the appointment and also from acting as a medical practitioner The consistory, however, took a view of the case different from that of the medical chamber, saying that as the clergyman in question had a regular German medical qualification he was of course entitled to engage in medical practice They could only prohibit him from doing so if he neglected his clerical duties, a fault which he had not committed The consistory further stated that the only patients whom he attended were residents in his parish and that at their special request he had been appointed honorary medical officer of the parish, in which there was no resident medical man He did not receive any fees for this appointment, so that the neighbouring medical man who continued to act as medical officer and to receive the same salary as formerly had no real ground of complaint Far from prohibiting the clergyman from engaging in medical practice, the consistory wished him to continue his work in the interest of the parish The medical chamber thereupon decided to enter the clergyman in the *Medical Register* in the same manner as all other medical men residing in the province, to recover the tax for the medical chamber from him, and to bring him under their jurisdiction in questions of medical ethics

The Retirement of Professor Heubner

Professor Heubner the well known specialist for diseases of children, has left his post as ordinary professor of pediatrics at the University of Berlin and director of the pediatric department of the Charité Hospital At the occasion of his final lecture all his former and present assistants assembled in the lecture room together with the students Professor Finkelstein presented a "festschrift ' edited by the different assistants, and announced that a fund had been collected under the name of the Professor Heubner Fund for the support of clinical and therapeutical researches in pediatrics A premium from the interest of the fund is to be distributed every three years to workers in the above branch of medicine

Statistics of Deaf mutism

According to the statistical journal edited by the Prussian Statistical Office the number of deaf mutes in Prussia registered at the last Census was 34,804, of whom 18,659 were men and 16 145 were women It is remarkable that the relative number of deaf mutes has continuously decreased since 1871 , in 1871 there were 9 9 deaf mutes registered for each 10 000 of the population, but only 8 7 in 1910 The Eastern Provinces of Prussia have relatively the greatest number of deaf mutes, the ratio per 10 000 being 17, 16, 15, and 11 cases in East Prussia, West Prussia Posen, and Pomerania respectively In the Western Provinces, Rhenish Prussia, Saxony, Westphalia Schleswig Holstein, and in the district of Berlin only 5 to 7 cases occurred for each 10,000 The Jews have the largest proportion of deaf mutes—namely, 14 4 per 10,000 , among the Protestants the corresponding number is 9 9, whilst among the Roman Catholics it is 10 3 In the year 1910, of the men 27 5 per cent were married as compared with 13 per cent in 1880 The increase of marriages is certainly caused by the fact that a better training of the men enables them to provide a home. This is also illustrated by the fact that 2195, being 117·6 of each 1000, were established in independent positions as compared with 60·8 per 1000 in 1880. The majority of deaf-mutes are engaged in tailoring and in agricultural work. There are 48 institutions in which 5050 deaf-mute children are being trained by 612 teachers.

The Berlin Medical Society.

At the last general meeting of the Berlin Medical Society the honorary secretary, Professor von Hansemann, gave a report of the business of the society. He stated that the number of members was 1714, of whom 22 were honorary and 9 were life members. The society had met 34 times, when 44 lectures were delivered. The number of members had increased by 93. Two of the honorary members, Lord Lister, of London, and Professor Armaur Hansen, of Bergen, had died. The treasurer, Professor Stadelmann, reported that the funds of the society amounted to 280,900 marks, or £14,045. The librarian, Dr. Hans Kohn, said that the reading-room had been visited 10,461 times by members and 11,433 times by their friends. There were 206 medical journals kept in the reading-rooms. The catalogue of the library contains 46,340 volumes, including medical journals and books. During the last year a union of the libraries of nearly all the other important medical societies of Berlin has taken place, the societies having placed their libraries under the control of the Medical Society, paying a certain sum for the use of the reading-room and the salary of the attendants. Considerable sums could be saved because it was no longer necessary for each society individually to subscribe for the same journals. The assembly-room of the society in the Langenbeck House, which is the property of the German Surgical Association and is rented from it, is much too small, and the Medical Society will therefore build new premises under the name of the Virchow House. It is intended to begin the work in October next, and to have it finished in October, 1914. The committee of the Berlin Medical Society was re-elected, Professor Orth being chosen president.

A Medical Excursion to Great Britain.

In connexion with the International Medical Congress in London the central committee for medical excursions will arrange an excursion to England, Scotland, and Ireland. The party will start on August 3rd by special steamer chartered from the Hamburg-America line. They will arrive on August 5th in London, where lodgings will be ready for them at De Keyser's Royal Hotel, Blackfriars. The stay in London will last until August 12th, when they will re-embark on their special steamer and first proceed to Scarborough, where they will arrive on the 13th, leaving the same evening for Leith. The 14th will be spent in visiting Edinburgh, and the 15th in making a trip to the Scotch lakes, including Loch Lomond, Loch Katrine, the Trossachs, and Callander. The next stopping places will be Aberdeen, Stornoway (in the Hebrides), Oban (with a trip to Staffa), Glasgow, Belfast (with a trip to the Giants' Causeway), and Kingstown (with a trip to Dublin). The Channel Islands will be the last British territory visited by the party, which will then go to Rotterdam, from where they will reach Hamburg by steamer on August 28th. The expenses are from 875 to 1400 marks (£43 15*s.* to £70), according to the cabin. No doubt the excursion to Great Britain will be a success, as was the case with the great trip to America last year, arranged also by the central committee for medical excursions on the occasion of the International Congress on Hygiene.

March 31st.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Lectures to Students on Questions in Medical Ethics.

THE difficulties of the first few years in practice are in no small degree increased by the problems of medical ethics and economics, which I regret to say are not fully understood by many graduates of our universities. The "Organisation" of the Vienna practitioners has therefore arranged a series of lectures dealing with various subjects necessary to be known by the young practitioner, but especially intended for students of medicine, for it is to them that the Organisation appeals, since they will form the backbone of the medical Organisation in the near future. The most interesting of the lectures, of which some have been already delivered before large audiences, dealt with the relations between the practitioner and (1) the general public, (2) the municipal and state authorities, and (3) public and private corporations, including the sick clubs or Krankenkassen and contract practice generally. A large share of the lectures was allotted to the problems of income taxes and duties, as well as to the position of medical men in forensic cases, a position which is not an enviable one, and it was shown how the new "Penal Code Act" would, if it became law, improve the forensic relations of medicine. As the lectures were well attended the Organisation has decided to continue the experiment.

Sick Clubs and their Medical Officers in Lower Austria.

On Feb. 1st the medical officers of all the sick clubs or Krankenkassen belonging to the various guilds in Lower Austria discontinued, after due notice, their work in the service of these clubs, and restricted themselves to giving medical aid to the men belonging to them at the ordinary fees for private practice. All administrative work such as notification of disease in connexion with contract practice is stopped. The medical officers have given an explanation of their attitude in a pamphlet, addressed to employers and employees alike, setting forth their grievances in six articles, to the following effect: 1. The Union of the Sick Clubs does not recognise the arrangement, as regards contract practice, arrived at between the delegates of medical councils and of the "Committee of the Sick Clubs of Austria" some time ago. 2. The sick clubs want to subject the medical men to the control of non-medical officers. 3. The work of the medical officers is being constantly increased to the detriment of the sick members, whilst their remuneration remains unaltered. The medical officers, therefore, wish to be paid at the rate of so much per patient, and not by a fixed salary without reference to the number of members allotted to each medical officer. 4. The specialists appointed by the "Union" can only be consulted by patients who are not confined to bed, whilst those requiring the advice of specialists, if they cannot go out, must become in-patients in a hospital. 5. The appointment and allotment of the medical officers' districts are matters to be decided not by the local committee of the sick club, but by the "Union." 6. The medical officers object to patients with an income of more than £100 a year being retained on the list of the sick club, and refuse to treat them at the reduced rates of the sick club. For all these reasons the medical officers resigned their appointments at the same time, taking steps to hinder the "Union" from getting other men to take up the work. The conflict has now been going on for two months; the clubs pay their sick members 150 per cent. of their regular sick pay, and provide them with medicine, but not with medical advisers. It appears already that the extra 50 per cent. which the clubs are now paying over and above the regular sick pay is more than they used to spend in the remuneration of the medical officers, and therefore they are trying to find a pacific solution of the difficulty. The profession hopes that the result will be in its favour.

The Winter Term of the Medical Session.

The winter term of the medical session 1912-13 has now terminated, and by this time it is known that the number of medical students has again increased, especially in the German-speaking Universities. In Vienna it has been marked by the erection of the new buildings for anatomical dissection, as well as by the beginning of the Chemical Institute, which will be ready in about a year's time. Since the official commencement of this term in October, 1912, two new hospitals have been established, and four professorships have become vacant, partly through the operation of the age limit of 70 years and partly through death.

March 31st.

MEDICAL MAGISTRATE.—Mr. J. Wheeler-O'Bryen, L.R.C.P. & S.Edin., has been appointed a justice of the peace for the county of London.

NOTES FROM SOUTH AFRICA.

(FROM OUR OWN CORRESPONDENT.)

The Parliamentary Session.

THE third session of the first Parliament of the Union of South Africa has been opened, but it is not anticipated that it will be of long duration, for the differences between General Botha and General Hertzog on the subject of the relationship of South Africa with the rest of the Empire, which led to the exclusion of General Hertzog from the Cabinet, have caused a widening breach between the two wings of the party in power. It is evident, at any rate after a perusal of the Governor-General's speech at the opening of Parliament, that during this session there will be no legislation of medical interest introduced by the Government. A private measure has, however, been introduced into the Senate which, from the welcome extended to it by Mr. Sauer, the Minister of Native Affairs, on behalf of the Government, should stand a good chance of being passed into law. This is a Bill purporting to deal comprehensively with the question of the protection of child and infant life. In terms of this measure a child includes an infant, and is to be regarded as a person under 16 years of age. The most salutary and severe penalties are prescribed for all forms of cruelty to or for neglect of children. A magistrate, when passing a sentence on or committing for trial any person under the measure who has been charged with neglect of or cruelty to a child, is to be empowered simultaneously, should he think fit, to commit the child to the custody of any person or institution approved of by him that is willing to receive the child. The measure repeals the existing Infant Life Protection Acts of the Transvaal and the Cape and incorporates the provisions of these Acts, or many of them, in a more practical form. It empowers local education authorities to carry out the medical examination of school children, and to deal with children attending school who are in a dirty or verminous condition, or who are suffering from any contagious or infectious disease.

The University Bill.

Mr. Malan, the Minister of Education, has introduced the Bill prepared by him for the establishment of a South African Teaching University at Groot Schûr on a portion of that magnificent estate left by Cecil Rhodes in trust to the nation. The Bill is meeting with a great deal of hostile criticism from the Government back benches. It has not been welcomed very warmly in medical circles, for its provisions are quite inadequate from the point of view of medical education, and it is thought that, although it is generally recognised that the time has not arrived for the establishment of a complete medical school, provision should be made in the Bill to enable such a school to be established whenever it is found practicable in the future. There are a number of objectionable features in the Bill which will doubtless be brought out in debate by the medical members of the House. It is not considered probable that the measure will become law, as a majority of the Government party are strongly opposed to it, but the Bill, if suitably amended, would have gone a long way towards placing higher education generally in South Africa on a much more satisfactory basis than it can ever be under existing conditions. Moreover, there is the danger that the Beit legacy of £500,000 towards the founding of the proposed University may be forfeited unless the scheme is carried out without further delay.

Proposed Restriction of the Cultivation of Dagga.

The Minister of the Interior was recently questioned in the House as to whether the Government intended to take any steps to prohibit the growth and sale of dagga. He stated in reply that the Government was fully alive to the evil effects the consumption of dagga was having upon the coloured and native populations of the Union, but that it was not prepared to take steps in the direction desired for the present. He thought that the whole subject could be best dealt with in the Public Health Act.

Need for Reform in the Administration of the Lunacy Laws.

Nearly three years have elapsed since [illegible] South Africa was established, but no steps app[illegible] been taken to prepare a consolidating Bill [illegible] cy. Consequently the law remains different in each of the four provinces, and the existing laws are mostly antiquated and out of date. All that appears to have been done is to concentrate the administration of these laws under one department in the administrative capital, and this is perhaps responsible for most of the difficulties that would seem to have arisen, as the Department of the Interior is not equipped with the services of an expert adviser, and has to seek advice from the officers in charge of the different asylums whenever it requires guidance, or alternatively to act without obtaining such advice. The result is that no settled policy is being pursued in regard to the administration of the lunacy laws generally, and this is unquestionably responsible for much of the friction and confusion which are occurring at the present time. Moreover, the work of the different asylums is not being properly coördinated, and each asylum is being administered according to the views of the particular medical superintendent in charge thereof. The chaos which now exists was well brought out in the correspondence recently published by a practitioner at Kimberley which has passed between himself and the Minister. At the present time it is certainly the dread of every medical man in practice lest he should be called in to see a patient with acute mental trouble necessitating certification, for, no matter how urgent a case may be, it usually takes weeks, and often months, before authority to send the patient to an asylum is received, and during the interval the practitioner as often as not has the responsibility of looking after the patient under most unsuitable and improper surroundings, or, if the patient is a pauper, he has to hand the case over to the district surgeon to be dealt with where the magistrate thinks best. Apart from the inconvenience of these long delays there can be no question but that at the present time a large number of early mental cases—that would, given proper treatment from the start, stand good chances of recovery—become chronic, because in the absence of suitable accommodation proper treatment cannot be carried out. The matter is really becoming urgent. From time to time grave scandals leak out; questions are occasionally asked in Parliament; the matter is then generally stated to be still under the consideration of the Government, and it then drops until a further scandal occurs.

Robben Island Leper Asylum.

For a long time past dissatisfaction has been expressed with the system of administration at Robben Island, and recently there have been very disquieting rumours. It is suggested that the island is being administered on principles that are radically unsound, and that the sooner the institution is reorganised on modern lines the better it will be for the patients and the community generally. The first step might well be to remove the lunatics and convicts from the island and to use the extra accommodation thus secured for the grading of the patients according to the stage the disease has reached and according to their class in life. Also the administration of the island should be taken out of the hands of a lay Commissioner and the entire island placed under the control of an experienced medical superintendent, who should have full authority to reorganise the institution in accordance with modern ideas. It is understood that a strong movement will be made shortly in Parliament during the present session either for a Select Committee or an outside Commission to inquire into the existing methods of administering the leper asylums in particular, and especially that at Robben Island, and the leprosy laws in South Africa in general. On Jan. 30th the Governor-General and Lady Gladstone, together with the Minister of the Interior, paid an official visit to Robben Island. The object of the visit was to open an exhibition of work by leper patients on the island, but it appears that both the Governor-General and the Minister took the opportunity of inquiring into the methods of administration in vogue.

District Surgeons' Grievances.

There is a growing feeling of discontent amongst the district surgeons of the Union, who are under the administration of the Department of the Interior. Unless allayed by more considerate treatment this discontent is bound to come to a head sooner or later. At [illegible] the district surgeons are still working under [illegible] vincial tariffs that existed prior to U[illegible] certain of the provinces fees had been financial depression. There is considerable disparity between the allowances and the fees paid in the different provinces. Moreover, prior to Union in certain of the provinces district surgeons were under the control of the principal medical officer of health, and were enabled to appeal directly to him against any decision affecting their work given by resident magistrates or other local officials. Since Union the district surgeons have all come under lay control and complaints are general on all sides. The new tariff of witness fees, moreover, hits a district surgeon exceedingly hard. There are many other matters requiring adjustment, and it is to be hoped that the Government will take the opportunity of attending to them when the district surgeons' regulations for the Union come to be prepared.

Feb. 8th.

CHINA.

(FROM OUR OWN CORRESPONDENT.)

The Death of the Empress Dowager.

IN the Palace at Peking early in the morning of Feb. 22nd died the Lung Yü Empress Dowager. Though this event at the present juncture has little political significance, it will be remembered what an important part the late Empress played in shaping recent Chinese history. By abdicating during the Revolution in defiance of the truculent protests of her Manchu kinsmen she certainly saved the country much bloodshed and misery. This act incurred the bitter resentment of her clan—a resentment, it is said, many of them took no pains to conceal. There can be little doubt that the anxiety of the past 18 months materially affected her health. Though it had been known for some time that the Empress Dowager was in failing health her death came as somewhat of a surprise to the general public. It was freely rumoured that Her Majesty had committed suicide, and that she had been moved to this act through chagrin at not being treated with sufficient consideration in the arrangements for the removal of the Court from the eastern to the western part of the Forbidden City. Also it was said that she felt most keenly the lack of respect shown her by the Manchu princes on the occasion of her birthday celebrations, which took place on Feb. 11th. There seems no reason to believe that these reports of suicide had any foundation.

Five days before her death the late Empress Dowager received two American ladies, who were permitted to photograph her and the boy Emperor. The visitors remarked that Her Majesty looked extremely ill and had œdema of the face. Subsequent official reports seem to indicate that renal or cardiac disease was the malady from which the Empress suffered. The following accounts, translated from native newspapers, are of interest as showing purely Chinese methods of treatment. Though a Chinese doctor, named Chüeh Yung-ch'in, who had received a Western education, was sent to the Palace by the President, Yüan Shih-kai, he was not allowed to see the Empress Dowager.

Extract from the newspaper *Ya-hsi-ya Pao* of Feb. 24th:—

The Imperial doctor, Ch'ang Tsuan-Yüan, reported that on Dec. 28th of last year the Empress Dowager showed symptoms of swelling, which started at the ankles and gradually rose till it reached the hips. It was not till Jan. 10th that Her Majesty summoned doctors of the Imperial Medical Board. Dr. Ch'ang went in to treat the case. His opinion was that the disease was of the nature of œdema. He ordered *wu-fu san* (a powder made from several kinds of *pachyma cocos*, a fungus which grows upon the roots of firs) as a diuretic, without successful result. Then stronger medicines were administered—viz., *ling-shu* (roots of species of *atractylodes*), *chih-tsao* (*hovenia dulcis*), and *chiu-chün* (matured native wine), which together compose a strong diuretic. Fluid was evacuated both from the bowels and by the urine, and the swelling subsided. Ginseng was administered both as a tonic and in order to help digestion. On account of indiscretions in diet œdema again appeared on Feb. 1st, and became more extensive than it was previously. In the space of one night the swelling reached as high as the hips. On Feb. 2nd Dr. Ch'ang was again summoned to the Palace and made use of the old prescription with a few additions—viz., of *ting-li* (seeds of *draba nemoralis*, which resembles mustard) and of ginseng. Fluid was again evacuated, but the stomach had become very weak, and the doctor ordered such tonics as *ssŭ-chün-tzŭ-t'ang* (a decoction composed of ginseng, *atractylis ovata*, *pachyma cocos*, dried licorice root, ginger, and dates), *i-i* (c [illegible] (the bean *dolichos lablab*), in order to [illegible] Feb. 5th another dose of diuretic medicin [illegible] the swelling had totally subsided, and two [illegible] had disappeared.

It will be remembered that Feb. 15th and 16th were the days on which the birthday celebrations took place, and Her Majesty came out to the audience hall to receive congratulations. No doubt she was much fatigued after these exertions, and on Feb. 17th she felt cold sensations in her limbs. Dr. Ch'ang prescribed some diaphoretics, such as *kuei-chih* (tips of young branches of *cinnamomum cassia*), to cause profuse perspiration. The disease was alleviated, but at 10 o'clock in the morning of Feb. 21st a violent chill supervened and the condition became very critical. Dr. Ch'ang ordered the following medicines: *kua-lou* (*tricosanthes multiloba*, a kind of bryony), *pan-hsia* (*pinellia tuberifera*), *chü-hung* (orange-peel), and *chu-li* (bamboo sap), but without any effect. The breathing became very laboured and the pulse was intermittent. Then Dr. Ch'ang administered some medicine called "Powder for Stimulating the Pulse," to which were added a few other ingredients, such as bamboo sap, orange-peel, and ginger juice. After taking this mixture Her Majesty was not much relieved, so Dr. Tsao Yüan-sun was summoned. Dr. Tsao changed the prescription and used *shih hu* (yellow stalks of an epiphyte, *dendrobium ceraja*, which grows on stones), *shih-kao* (calcium sulphate), *chên-chu* (*phyllanthus urinaria*), *mou-li* (shells of the rock-oyster), *lung-tao* (fossil bones), *fu-shên* (*pachyma cocos*, a fungus that grows on the roots of firs), *kua-lou* (seeds of a kind of bryony), bamboo juice, and orange-peel. However, all these had no beneficial effect, and the Empress Dowager died at 2 A.M. on Feb. 22nd.

Another paper, the *Kuo-chüan Pao* of Feb. 23rd, published a long editorial discussing the cause of the Empress Dowager's death. After referring to the annoyance caused Her Majesty by the insolent behaviour of the Manchu princes and of some of the Imperial concubines, it dwelt upon the Empress's disappointment that after a year of Republican government the country was still in such an unsettled state. None of the various possible factors, however, were considered so likely to have brought about the fatal termination to the Empress's illness as the treatment carried out by the Court physicians. As the writer remarked, the drugs used were numerous, and the prescriptions ordered by the various doctors were not harmonious in their actions.

The writer continued: "We have contrived to get copies of prescriptions from the Imperial household. The first one is written by Dr. Tsao, who respectfully requested permission to feel the Imperial pulse, and gave his opinion as follows: 'The three sections of the left hand pulse are slow and weak; the section an inch above the wrist on the right side has but little strength. Breathing is extremely difficult and she cannot lie down. Phlegm is continually rising. Her strength is exhausted and perspiration is too profuse. The dorsum of the tongue is black as charcoal, but on each side the surface is natural. Her strength is rising up and the central part of the body is left exhausted. I have grave fears that œdema of the lungs will be so extensive that suffocation will result. I propose to imitate the methods followed by the eminent authority Man-chien, and further, attempt to make my prescription according to the principles expounded by the Taoist priest Sun.'"

Here followed a copy of Dr. Tsao's prescription, containing 13 ingredients, most of which have been already mentioned above.

Peking, March 10th.

Obituary.

ALFRED LEWIS GALABIN, M.D. CANTAB., F.R.C.P. LOND.,

CONSULTING OBSTETRIC PHYSICIAN TO GUY'S HOSPITAL;
LATE FELLOW OF TRINITY COLLEGE, CAMBRIDGE.

WE regret to announce the death of the well-known obstetric physician and author, Dr. Alfred Lewis Galabin, which occurred at the age of 70 from pneumonia, after only five days' illness, on March 25th, at his residence at Bishopsteignton, Devon.

Alfred Lewis Galabin was born on Jan. 10th, 1843, and received his education at Marlborough and at Trinity College, Cambridge, where he was a foundation scholar and also Wrangham gold medallist. He graduated at Cambridge in 1866 as a double first in classics and mathematics, which was already becoming a rare distinction. He was seventeenth wrangler and also bracketed eighth in the classical tripos of the same year, and was duly elected a Fellow of his College. Having decided to enter the medical profession, he proceeded to the medical school at Guy's Hospital.

He took the Membership of the Royal College of Surgeons of England in 1872, and in the following year graduated as M.D. at Cambridge. He took the Membership of the Royal College of Physicians of London in 1874. In that year he was appointed lecturer on clinical midwifery, in 1875 obstetric assistant physician, and in 1876 lecturer on diseases of women in Guy's Hospital. He became a Fellow of the

Royal College of Physicians of London in 1878, and 20 years later served on the Council In 1884 he was appointed full obstetric physician and in 1887 lecturer on midwifery, all of which posts he held until he passed on to the consulting staff at Guy's in 1903 He was also for a time assistant physician to the Hospital for Children, Great Ormond street

A testimony to the range and accuracy of his professional learning, as well as to his academic distinction, may be *found in the number of examinerships which he held* In the "eighties" and "nineties" Dr Galabin was several times examiner to the Royal College of Physicians He was also examiner in obstetrics at the Universities of Oxford, Cambridge, and London He held most of the offices in the Obstetrical Society of London, and was president in 1899-90

In 1873 Dr Galabin published a small work on "The Connection of Bright's Disease with Changes in the Vascular System," and several of his early communications to the medical press dealt with the circulatory system His first work on the subject with which his career was subsequently identified was his "Students' Guide to the Diseases of Women," published in 1879 Terse and clear in style and pleasant to read, it bore evidence of erudition, careful observation, and sound judgment, and in many places, particularly in regard to the pathology and morbid anatomy of the conditions dealt with, displayed its foundation of original work It was, in fact, for its size, the best and most complete work on the subject The sixth edition, which appeared in 1903, was substantially a new book The author's extensive practical experience and his intimate acquaintance with the special needs of students, gained in a long association with them both as teacher and examiner, fitted him peculiarly for his task, and the book displayed one of his marked personal characteristics, his well balanced judgment enabling him to present fairly both sides of a debatable point In 1886 was published his "Manual of Midwifery," which also speedily became deservedly popular and was given first place among the treatises on that subject in the list of text books for students issued in THE LANCET, which in those days was published every year in the Students' Number This book also reached a sixth edition in 1903 In 1910 a seventh edition, written in collaboration with Dr G F Blacker, appeared under the title of "The Practice of Midwifery" It was greatly enlarged, brought well up to date and it is widely regarded as one of the best text books on the subject yet published by English authors Galabin's knowledge of mathematics enabled him to demonstrate and prove many points which were often obscure in the works of other obstetricians, and although his tendency to resort to mathematical proofs in his books did not always appeal to student readers, yet it gave a real and enduring value to his writings, more particularly those dealing with the mechanism of labour and the development of the pelvis He was a clear thinker and speaker, and on the many occasions in which he took part in discussions at the various societies he was always listened to with attention and respect If he made no important addition to our knowledge of midwifery, his writings and teaching influenced large numbers of students, and his "Manual of Midwifery" remained without a serious *rival as an authoritative text-book for a number of years*

Dr Galabin was not a prolific contributor to the medical press, most of his communications being made to various societies and appearing in their Transactions, what he did write was characterised by good judgment and balance For some years he was the editor of the *Obstetrical Journal of Great Britain and Ireland*, and in this, among other papers, he wrote on the Action of the Midwifery Forceps, the Effect of the Frequent and Early Use of the Midwifery Forceps upon the Fœtal and Maternal Mortality, the Occurrence in Normal Labour of Obliquity of the Fœtal Head, the Choice of the Leg which should be Seized in Version; on a case of Extra uterine Fœtation not Primarily Tubal (Primary Abdominal Fœtation), and on a New Form of Axis Traction Forceps His contributions to the discussions on the Production of the Shape of the Oblique Pelvis, on the Obstetrics of the Kyphotic Pelvis, and on Scarlatina during Pregnancy also were published in this journal Among his other contributions to medical literature many were of considerable value, and mention may be made of his report on Puerperal Pyrexia, published in 1884, in the Collective Investigation Record of the British Medical Association

Mr R Clement Lucas writes:—"The death of Dr Alfred Galabin removes one more from that inner circle of intimate friends formed during my student days and firmly maintained throughout life A true and always loyal friend was Galabin How well I remember his arrival at Guy's Hospital, with his extraordinary reputation as a 'double first' from Cambridge, and with what critical eyes we scanned the new recruit to trace wherein his great powers lay A *pale, black haired, slight, delicate, spectacled man, clearly* no athlete, he was probably reared with books as his early companions, at a time when many boys are demonstrating their evolution by violent sports A closer inspection showed a face of the highest intelligence, calm and gentle, on which boisterous mirth would never find even a temporary resting-place, though under amusement the features would relax into a very sweet smile His dignified integrity of character and sound judgment adorned the branch of the profession which he chose, and which in a previous generation had contained occasionally members not unjustly subjected to adverse criticism Dr Galabin's manner, no less than his obvious code, at once silenced the vulgarity that was two generations ago too frequent in the chamber of inheritance He was universally trusted At the time of Galabin's appointment to the post of obstetric physician at Guy's Hospital this officer was limited to the operations of labour, whilst ovariotomy and hysterectomy were performed by the surgeons About this time several physicians engaged in this special department elsewhere began to extend their sphere to the uterine appendages, and even further in the abdomen, and claimed the title of gynæcologists Galabin pressed this claim with a quiet persistence at Guy's, and though it was at first objected that obstetricians were not trained surgeons, permission was eventually given to perform the operation of ovariotomy, and this gradually led to the withdrawal of such cases from the general wards and to the appointment of obstetricians with a surgical training As a teacher Dr Galabin was too undemonstrative to be popular with the bulk of students and his lectures, carefully prepared and full of good material, lost weight by being read without emphasis, but he was universally esteemed for his exact knowledge, and those who wanted to learn knew the value of his teaching His high mathematical knowledge obtained useful employment in the mechanics of labour, which found expression in his book, but the average students dreaded lest this mathematical knowledge would be expected of them when he was examiner From what I have said it will be gathered that Dr Galabin was valued most by those who knew him best He was a man of the highest intelligence, kind hearted, and of the most amiable disposition, always a friend in trouble or difficulty, and universally respected in his profession"

THE NATIONAL INSURANCE ACT.

THE Insurance Commissioners have issued a revised form of Agreement (Form Med 29) between medical practitioners and Insurance Committees This Agreement *which will take effect on April 14th, 1913, refers only to the* capitation method of payment The wording of the terms and conditions of service differs in various respects from that in the former Agreement, and the schedules have been recast

NATIONAL INSURANCE PRACTITIONERS' ASSOCIATION.

A largely attended meeting of medical practitioners, convened by the National Insurance Practitioners' Association, was held on March 27th at the Westminster Palace Hotel, London, Dr Lauriston E Shaw being in the chair The meeting expressed its satisfaction at the decision of the Insurance Commissioners that no further wholesale "signing on" of insured persons would be required, and urged practitioners to give the suggested card system a careful and thorough trial The question of the limitation of lists was vigorously discussed, and it was resolved that further experience must be gained before it could be decided *how* many insured persons each medical man could treat The opinion was emphasised that at the termination of the present quarter all moneys for medical benefit should be allotted to each practitioner then on the panel in proportion to the number of insured persons on his list, regard being had to the date at to medical officers of health employed by local authorities and for contributions towards such allowances by those officers. Statutory provision of a similar nature has been alread made for Poor-law medical officers by the Poor-law Officers' Superannuation Act, 1896, and for the officers of asylums by the Asylum Officers' Superannuation Act, 1909.

The Bill contains 21 clauses, many of which are for the purposes of *machinery*.

Clause 1 sets out the title of officers of health to superannuation allowances in the following terms :—

"Subject to the provisions of this Act, every officer of health appointed by a local authority, whether before or after the commencement of this Act, who either (1) shall complete an aggregate service of 35 years ; or (2) shall become incapable of discharging the duties of his office with efficiency by reason of permanent infirmity of mind or body not arising from his own misconduct ; or (3) shall attain the full age of 60 years, shall be entitled on resigning or otherwise ceasing to hold his office to receive during life a superannuation allowance according to the scale laid down in this Act. Where an officer of health has attained the age of 65 years, and the local authority under whom he shall then hold office are of opinion that it would be expedient in the interests of the public service that he should cease to hold office, it shall be competent for that local authority to require him to retire upon payment to him of the superannuation allowance to which he may be entitled under this Act."

Clause 3 contains the scale of superannuation allowances. It provides that "an officer of health who has served for ten years but less than eleven years shall be entitled to an annual allowance equal to fifteen-sixtieths of the average amount of his salary or emoluments during the five years ending on the quarter day which immediately precedes the day on which he ceases to hold office, with the addition of one-sixtieth of such average amount for every additional completed year of service until the completion of a period of service of 35 years when a maximum allowance of forty-sixtieths shall be granted."

Clause 14 fixes the scale of contributions. It is as follows :—

"The percentage amounts to be deducted annually for the purposes of this Act shall be as follows :—

In the case of officers with less than five years' service at or appointed after the commencement of this Act, two per centum of the salary for each year ;

In the case of officers with more than five and less than 15 years' service at the commencement of this Act, two-and-a-half per centum of the salary for each year ;

In the case of officers with more than 15 years' service at the commencement of this Act, three per centum of the salary for each year."

Milk and Dairies Bill.

Mr. BURNS, the President of the Local Government Board, has introduced in the House of Commons a Bill "to make better provision with respect to the sale of milk and the regulation of dairies." It has been read a first time.

In a Memorandum the objects of the Milk and Dairies Bill are summarised. The principal of these are to provide for (1) the more effective registration of dairies and dairymen ; (2) the inspection of dairies and the examination of cows therein and the examination of milk ; (3) the prohibition of the supply of milk from a dairy where such a supply has caused, or would be likely to cause, infectious diseases, including tuberculosis ; (4) the prevention of the sale of tuberculous milk ; (5) the regulation of the importation of milk so as to prevent danger to public health arising therefrom ; (6) the issue of regulations for securing the supply of pure and wholesome milk ; and (7) the establishment by local authorities in populous places of milk depôts for the sale of milk specially prepared for infants.

As the memorandum goes on to state, the provisions as to registration supersede the provisions as to the registration of dairies contained in the Contagious Diseases (Animals) Acts and the orders made thereunder. The provisions as to the inspection of dairies and the prohibition of the supply of milk are based on the provisions of the Public Health (Scotland) Act, 1897. The clause as to the prohibition of the sale of tuberculous milk is taken from the model milk clauses, which have been incorporated in many local Acts, but the scope of the enactment is somewhat extended. The Board of Agriculture and Fisheries have issued an order under the Diseases of Animals Act, 1894, dealing with tuberculous cows, and providing for the payment of compensation in cases of slaughter. The Treasury are prepared, subject to the assent of Parliament, to sanction the payment from the Exchequer of one-half of the net amount paid by way of compensation for a period of five years.

Milk and Dairies (Scotland) Bill.

Mr. MCKINNON WOOD, the Secretary for Scotland, has presented a Bill in the House of Commons "to ensure the purity of milk supplies and to regulate dairies in Scotland." It has been read a first time.

Select Committee on Patent Medicines.

The Select Committee of the House of Commons on Patent Medicines resumed on Thursday, March 27th, the hearing of evidence from the standpoint of owners of proprietary articles.

Elementary Education (Defective and Epileptic Children) Bill.

A Bill has been introduced into the House of Commons by Mr. J. PEASE, President of the Board of Education, laying on local educatio authorities the duty to provide for the education of mentally defectiv children. It has been read a first time.

Deaths Registration and Burials Bill.

Amongst the Bills introduced in the House of Commons recently one "to amend the law relating to the registration of deaths and burials." It was presented by Mr. GEORGE GREENWOOD.

General Medical Council.

The accounts of the General Medical Council and branch councils an of the Dental Registration Fund have been laid on the table of th House of Commons.

The Mental Deficiency Bill.

The Mental Deficiency Bill which was issued on Monday last is substantially the same as the Bill which the Government dropped las session from its programme of measures, owing, it was said, to the shortage of Parliamentary time. There has been considerable rearrangement of the clauses and some interesting omissions. For example Part I. of the original Bill, which dealt with the central and loca authority, has now become Part II. The Board of Control is to be constituted as follows: there will be 15 Commissioners, of whom not mor than 12 should be paid, and of those paid four should be legal and fou medical, and at least one of the paid and one of the unpaid Commissioners shall be a woman.

Part II., describing the methods of dealing with the mental defective has now become Part I., and the first clause of the new Bill define defectives as follows :—

(*a*) *Idiots*; *that is to say*, persons so deeply defective in mind fro birth or from an early age as to be unable to guard themselve against common physical dangers ;

(*b*) Imbeciles ; that is to say, persons in whose case there exists from birth or from an early age mental defectiveness no amounting to idiocy, yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so ;

(*c*) Feeble-minded persons ; that is to say, persons in whose case there exists from birth or from an early age mental defectiveness not amounting to imbecility, yet so pronounced tha they require care, supervision, and control for their own protection or for the protection of others, or, in the case o children, are incapable of receiving proper benefit from the instruction in ordinary schools ;

(*d*) Moral imbeciles ; that is to say, persons who from an early age display some permanent mental defect coupled with strong vicious or criminal propensities on which punishment has little or no deterrent effect.

Clause 50 of the original Bill, which prohibited marriage with a defective, is now omitted. The new Bill makes no provision for Scotland, which division of the kingdom will be dealt with by separate legislation.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 26TH.

London Water-supply.

Sir JOHN LONSDALE asked the President of the Local Government Board whether his attention had been called to the reported contamination of part of the London water-supply; and whether he could give any information on the subject to allay public apprehension.—Mr. BURNS replied: My attention has been drawn to the matter referred to, and I have been in communication with the Metropolitan Water Board, who have been investigating it since the first complaints were received. The unpleasant taste which has been noticed in the water is due to the decay of algæ, but I am glad to be able to state that it is not in any way injurious to health. The source of the trouble having been discovered, steps have, I understand, been taken to remove the ground of complaint.

Medical Benefit and Insured Persons on Holiday.

Mr. RONALD MCNEILL asked the Secretary to the Treasury what arrangement had been made for providing medical benefit for insured persons who might become entitled to it while absent from their usual places of residence for holidays or otherwise.—Mr. MASTERMAN answered: The question is being brought before the Advisory Committee to-morrow. I have nothing to add in the meantime to the previous answers which I have given on this subject.

Mr. RONALD MCNEILL: Will the Regulations be issued as soon as possible?—Mr. MASTERMAN: There are Regulations issued and provision is being made, but as there is some criticism of the present provisions the whole matter is being brought before the Advisory Committee, which represents the doctors and the Approved Societies. I recognise as much as the honourable gentleman the urgency of the question.

Small-pox in the Navy.

Mr. MACNAMARA (Parliamentary Secretary to the Admiralty) informed Mr. BENTHAM that no small-pox cases had recently been reported as having occurred amongst the crews of any of His Majesty's ships at Devonport other than the *Conqueror*.

Colour Vision Tests in the Mercantile Marine.

Lord HUGH CECIL asked the Parliamentary Secretary to the Board of Trade whether the tests for defective colour vision approved by the Board of Trade differed from those approved by the Admiralty, and if so, whether the Board of Trade, in view of recent scientific investigation and discussion, intended to adopt the tests now approved by the Admiralty.—Mr. J. M. ROBERTSON said in reply: The colour vision tests in force for the mercantile marine are not identical with those approved by the Admiralty. A *Departmental Committee, including a number of eminent scientific men, has recently considered the sight tests for the mercantile marine, and the recommendations of the committee* have been generally adopted. The new tests based on their recom-

opinions.

School Clinics.

The Grants to Scottish Universities.

Answering Mr. JAMES HOGGE, Mr. MASTERMAN said: It is proposed to pay the full grant for this year to all the Scottish universities, subject in the case of Edinburgh University to the appointment of a committee (as has already been done by Glasgow University) to consider the establishment of an inclusive fee in medicine.

Sanatorium Benefit in the Lindsey Division.

Mr. WEIGALL asked the Secretary to the Treasury how many sanatoria there were in the Lindsey area of Lincolnshire, and how many consumptive cases had received treatment in this area up to March 1st last.—Mr. MASTERMAN wrote in reply: Up to March 1st 48 applicants had received sanatorium benefit from the Lindsey Insurance Committee. Twenty-one of these cases were sent to sanatoria and 27 received domiciliary treatment. There are no approved sanatoria actually in the Lindsey area, but the Committee have made arrangements with sanatoria in Lincoln, Withersea, Horsforth, and Ipswich.

Imported Milk.

In reply to Mr. STANIER, Mr. BURNS wrote: In no case was any fresh imported milk during January and February declared to be unfit for human consumption.

THURSDAY, MARCH 27TH.

Ireland and the Mental Deficiency Bill.

Scottish Clerks' Association and Medical Benefit.

Mr. MACCALLUM SCOTT asked the Secretary to the Treasury whether he was aware that for ten years before the commencement of the National Insurance Act the Scottish Clerks' Association had a system of medical benefit whereby members called in their own

their members. It is primarily the duty of the Insurance Committees concerned to consider whether, in view of these arrangements and of any other local circumstances, members of the association could

Udal Torre Sanatorium.

Lord NINIAN CRICHTON-STUART asked the Secretary to the Treasury whether he was aware that complaints were being made as to the daily routine, the quality of the food, the small amount of food provided for each patient, and the general treatment of patients at the Udal Torre sanatorium in Devonshire; whether this was as contemplated by the

number of patients, on hearing that certain complaints had been made, volunteered the statement that they had no similar complaint, and that in their opinion everything possible was being done for their benefit.

Medical Benefit in West Hougham.

MONDAY, MARCH 31ST.

Contributions to Hospitals and the National Insurance Act.

Sir J. D. REES asked the Secretary to the Treasury whether he was aware that *the Saturday collections for Nottingham Hospital were* £1600 less than those of the previous year; that the deficiency was due to the unwillingness of subscribers to continue their subscriptions since

contemplated.

Medical Aid Association.

Sir J. D. REES asked the Secretary to the Treasury whether he was aware that the Friendly Societies operating in the Heanor, Langley

TUESDAY, APRIL 1ST.

Medical Attendance on Post Office Employees.

Inspection of Cattle under the Dairies Bill.

the President of the Local Govern-

the opinion generally expressed both

The Grant for Treatment of Tuberculosis in Wales.

asury whether the

of tuberculosis in

Welsh Insurance

rculosis in Wales

t for this purpose

Maternity Benefit in Scotland.

In answer to Mr WATT, Mr. MASTERMAN said: No full information is yet available as to the different forms in which the Approved Societies in Scotland are (within the discretion allowed to them under the Act) administering maternity benefit, but I am informed by the Insurance Commissioners that some of them are giving a part of the benefit otherwise than in cash—e.g., paying a doctor or providing necessities required in connexion with the confinement.

Scottish Clerks' Association and Medical Benefit.

SCOTT that he under-

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Dr. Robert Heilig Library
S. M. S. Medical College

of the induced self-deception and dishonesty that almost invariably take possession of even the naturally most honourable characters under the insidious deteriorating effects of the drug, so that rigid external control is practically an essential for the successful treatment of the habit. He speaks favourably of the homes of the Church of England Temperance Society, by which society (4, Sanctuary, Westminster) the pamphlet is published.

THE NEW STANDARD DICTIONARY.

In a few weeks Messrs. Funk and Wagnalls will be issuing a new edition of the Standard Encyclopædic Dictionary, over which, it is stated, £300,000 have been spent. More than 300 specialists and editors have been engaged for some years in its preparation, among whom are Lord Avebury, for financial terms; Sir George Birdwood, M.D., Indian terms; Admiral Sir Cyprian Bridge, naval; Colonel Sir David Bruce, M.D., tropical diseases; Sir James Crichton-Browne, medical; Earl Roberts, military; Professor J. P. Mahaffy, classical; and other well-known names, British and foreign. The dictionary will define over 450,000 terms of all kinds. The 7000 black-and-white illustrations will be supplemented by a series of colour plates. A noteworthy new feature is that whereby when quotations are used to establish some point of definition or pronunciation the exact reference is given.

150,000 MICROSCOPES.

The optical and mechanical engineering works of Ernst Leitz, of Wetzlar, have recently completed their 150,000th compound microscope. This instrument has been presented to Professor Ehrlich, of Frankfort-on-Main. The 100,000th Leitz microscope was presented to the late Robert Koch.

◆

G. V.—We understand that under the Local Government Board General Order of Dec. 19th, 1912, medical practitioners notifying cases of pulmonary tuberculosis, as required by Article V. of the Order, are entitled to payment of a fee for each notification of 2s. 6*d.* if it is given by the medical man in the capacity of private practitioner and 1s. if it is given in his capacity as medical officer of a hospital or Poor-law institution or as a district medical officer. It is not necessary for the medical practitioner to send any account for these fees, which become payable by the local authority at the end of the quarter. The procedure and the fees are identical in the case of insured and non-insured persons, no distinction having been made in the Order under which the payment is authorised.

Dr. J. B. Hurry (*Westfield, Reading*) would be glad to know where the engraving of the late Lord Lister which was published a few years ago can be obtained.

Communications not noticed in our present issue will receive attention in our next.

The following Congresses, Conferences, and Exhibitions are announced for 1913:—

April 3rd–9th (London).—International Congress of Historical Studies.
,, 6th–12th.—Health Week.
,, 15th–18th (Wiesbaden).—Congress of Internal Medicine.
,, 22nd–25th (London L.C.C. Technical Institute, Vincent-square).—Annual Nursing and Midwifery Conference.
,, 26th (Ghent) (opens).—International Exhibition.
May 15th–18th (Paris).—Twenty-first Annual Congress of the Royal Institute of Public Health.
May–October (Leipzig).—First International Building Exhibition.
June 24th–27th (London, Ontario).—Canadian Medical Association.
July 7th–12th (Exeter).—Twenty-eighth Congress of the Royal Sanitary Institute.
,, 16th–18th (Oxford, Keble College).—Oxford Ophthalmological Congress.
,, 22nd–25th (Brighton).—Eighty-first Annual Meeting of the British Medical Association.
Aug. 4th and 5th (London, Caxton Hall).—English-speaking Conference on Infant Mortality.
,, 6th–12th.—(London).—Seventeenth International Congress of Medicine.
,, 20th–26th (Ghent).—Third International Congress of Neurology and Psychiatry.
Sept. 2nd–6th (Groningen).—International Physiological Congress.
,, 9th–13th (Vienna).—Second International Congress of Life Saving and Prevention of Accidents.
,, 10th–17th (Birmingham).—British Association.
,, 22nd–28th (Milan).—Fourteenth International Anti-alcoholic Congress.
(London).—Historical Medical Exhibition. (Organised by Mr. Henry S. Wellcome.)
(London, Earl's Court).—Imperial Services Exhibition.
(Chicago).—Congress of the International Association of Refrigeration.
(Washington).—Congress of American Physicians and Surgeons.
(Buffalo).—Fourth International Congress of School Hygiene.

In 1914:—
Aug. 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.
(Vienna).—Third International Congress for Professional Diseases.
(Auckland, N.Z.).—Australasian Medical Congress.
(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.
(Washington, D.C.).—International Congress of Americanists.
(London).—International Dental Congress.
(Paris).—Fourth International Medical Congress on Industrial Accidents.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, *Burlington House, London, W.*

Thursday.—Mr. A. D. Waller: The Various Inclinations of the Electrical Axis of the Human Heart.—Prof. J. H. Priestley and Mr. R. C. Knight: On the Nature of the Toxic Action of the Electric Discharge upon Bacillus Coli Communis (communicated by Prof. J. B. Farmer).—Surgeon-General Sir D. Bruce, Major D. Harvey, Major A. E. Hamerton, and Lady Bruce: (1) Morphology of the Various Strains of the Trypanosome causing Disease in Man in Nyasaland—II., The Wild Game Strain; (2) III., The Wild Glossina Morsitans Strain; (3) Infectivity of Glossina Morsitans in Nyasaland.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

Friday.

Clinical Section (Hon. Secretaries—C. H. Fagge, W. Essex Wynter): at 8.30 p.m.

Mr. E. M. Corner and Dr. P. H. Mitchiner: Case of Chronic Bone Disease shown in 1908.
Mr. E. M. Corner: A Boy with Ossification of Muscle after Injury.
Mr. E. M. Corner and Mr. C. V. Anderson: Case of Recovery from Severe Electric Burns.
Mr. C. H. Fagge: (1) Case of Myeloma of Tibia Seven Years after Enucleation; (2) Re-formation of Fibula after Complete Removal of Diaphysis for Acute Infective Periostitis.
Dr. F. Parkes Weber: (1) Ateleiosis in a Man of 45; (2) Ateleiosis in a Woman of 20.
And other Cases.

Paper:
Mr. Lockhart Mummery: Ulcerative Colitis.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, Lecture Theatre of the Society, 17, Bloomsbury-square, W.C.

Tuesday.—8 p.m., Papers:—Dr. F. B. Power and Mr. H. Browning, jun.: The Chemical Examination of Euphorbia Pilulifera—Dr. F. B. Power and Dr. A. H. Salway: The Chemical Examination of the Roots of Phaseolus Multiflorus.—Mr. J. Small: (1) The Identification Value of I. [illegible] of Herbs and Leaves (illustrated with [illegible] on False Nux Vomica Seed; (3) A New [illegible]

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor-road, S.W.

Wednesday.—5 p.m., Major H. Ensor, D.S.O., R.A.M.C.: The Duties of an Officer of the Royal Army Medical Corps, attached to an Infantry Battalion, on Active Service.

HUNTERIAN SOC[illegible] E.C.

Wednesday.—9 [illegible] (opened by [illegible] will take part:—Dr. T. J. Horder and Dr. T. G. Lyon. [illegible] Latham will reply.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90 Buckingham Palace-road, S.W.

Thursday.—7.30 p.m., Mr. H. Holman: Child Study and the National Health.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

Thursday.—8.30 p.m., Dr. A. P. Luff: The Various Forms of Fibrositis and their Treatment. (Harveian Lecture.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

Tuesday and Thursday.—5 p.m., Prof. A. D. Waller: The Electrical Action of the Human Heart. (Oliver-Sharpey Lectures.)

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

Monday.—10 a.m., Dr. Simson: Diseases of Women. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. 2.30 p.m., Mr. Dunn: Diseases of the Eye.

Tuesday.—10 a.m., Dr. Robinson: Gynæcological Operations. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. 2.30 p.m., Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 p.m., Diseases of the Skin

Wednesday.—10 a.m., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 p.m., Medical and Surgical Clinics. X Rays. Operations. Mr. Bishop Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.

Thursday.—2 p.m., Medical and Surgical Clinics. X Rays. Operations. 2.30 p.m., Mr. Dunn: Diseases of the Eye.

FRIDAY —10 A M Dr Robinson: Gynæcological Operations 2 P M, Medical and Surgical Clinics X Rays Operations Dr Davis Diseases of the Throat Nose and Ear 2 30 P M, Diseases of the Skin

SATURDAY —10 A M Dr Saunders Diseases of Children Dr Davis Operations of the Throat Nose and Ear Mr Bishop Harman Diseases of the Eye 2 P M, Medical and Surgical Clinics X Rays Operations

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital Greenwich

Mo

and its Treatment

TUESDAY A M Dr G Holmes:
Medi 12 noon, Dr H
Mac cGavin Operations
2 15 P M Dr G Rankin:
Medic Lecture —Dr G Holmes:
Paraplegia

WEDNESDAY 10 A M, Dr F Lang
mead: 11 A M Mr R L
Bickerton Cargill or Mr C Choyce:
Operati Medicine 3 15 P M,
Mr Ca, Mr C C Choyce:
Surgery

THURSDAY —Ou
Medical M
Throat Nos
Turner: Op
tion 3 15
Lecture —Dr Auricular Fibrillation

FRIDAY —Out patient Demonstrations —10 A M Dr G Holmes: Medical Mr A J Walton Surgical 12 noon Dr H MacCormac: Skin —2 P M Mr L McGavin Operations 2 15 P M Sir John Rose Bradford, Medicine 3 15 P M Mr L McGavin Surgery

SATURDAY —
Medical
Eye —

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" 28	29 34	S E	0 01	75	53	43	47	48	Overcast
" 29	29 59	S E	0 19	71	55	43	45	45	Cloudy
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An Address

ON

SOME GENERAL CONSIDERATIONS REGARDING THE RELATIONS OF THE MEDICAL PROFESSION AND THE PUBLIC.

Delivered to the Ulster Medical Society on March 6th, 1913,

By JAMES ALEXANDER LINDSAY, M.D.
R.U.I., F.R.C.P. Lond.
PROFESSOR OF MEDICINE IN THE QUEEN'S UNIVERSITY, BELFAST.

Gentlemen,—Our secretary h[illegible] task of submitting to you so[illegible] regarding the relations of the [illegible] public, a task which I would not have ventured to undertake unsolicited, and to which I address myself with unfeigned diffidence. I am informed that some of our members think that the present time of conflict and uncertainty, when our profession is the object of so much ill-informed and ungenerous criticism, is a suitable opportunity for reconsidering our responsibilities, duties, and privileges. It is sometimes salutary to hark back to first principles and to inquire what help they afford in dealing with the difficulties of the hour.

The National Insurance Act.

The Insurance Act, which is now the law of the land, and not likely to be abrogated, has [illegible] share of infantile disorders. [illegible] thoroughly healthy maturity I[illegible] Experience upon the point in Germany is not altogether reassuring. But one thing is certain. The Insurance Act is bound to have far-reaching effects for good or for ill upon the status, dignity, and usefulness of the medical *profession.* A large majority of our brethren have become, or are about to become, State servants, in receipt of State pay, and owing obligations to the State. In future they will have to acknowledge a threefold obligation—to their patients, an obligation which is primary and fundamental for us all; to their profession and their medical brethren; and to the State in its corporate capacity. The controversies which have raged round the Insurance Act have been to many of us painful and disquieting. They have too often shown a singular lack of appreciation of profession[illegible] and a niggardly recognitio[illegible] The work of safeguarding [illegible] battle against disease—a work certainly as honourable and indispensable as that of administering our laws or providing for the national safety—has been the object of much misrepresentation and ill-timed satire. Our critics have not always stopped to inquire whether their own contribution to the labours of the nation will bear comparison with that which they have belittled and impugned. Politicians have argued as if you could contract for medical service as you contract for the supply of milk or potatoes, forgetting that the one indispensable thing in a medical contract is to secure the good-will of the doctor and to have an assurance that the best that is in him, the best of his knowledge, energy, and skill, will be ungrudgingly devoted to his patients' welfare. A reluctant medical service will always be a bad medical service. Men smarting under the sense of compulsion or injustice cannot in the nature of things be expected to give their best to duties which are believed to involve unnecessary hardship. I do not affirm that all sense of injustice may not yet be removed, but I do confidently affirm that if the State wishes to be well served by the doctors it must treat them with respect and consideration, and not only secure but deserve their cordial coöperation.

Unqualified Medical Practice.

Another disquieting sign of these days was afforded by a recent controversy in the columns of the *Times* on the subject of quackery. In the course of that correspondence it was laid down by various authorities, more or less eminent, that if anyone could prove his capacity to cure, whether as a bone-setter or the possessor of some new drug, he had as good a right to practise medicine as any legally qualified practitioner, and that it was persecution and rank professional jealousy for the medical profession to refuse recognition and professional courtesies to such persons. The reply to this contention is very simple. The possession of a medical qualification is a guarantee that its possessor has spent several years in the studies of his profession, that he has some knowledge of the ancillary sciences, that his acquaintance with anatomy, physiology, chemistry, and materia medica will go far to preserve him from elementary errors, and that he has observed disease in hospital sufficiently long and sufficiently well to have a fair knowledge of the true nature, the probable course, the dangers, and the suitable management of the maladies entrusted to his care. Under none of these heads has the public any guarantee as regards the quack. Natural dexterity or happy chance may enable him to reduce a dislocation or set a fracture which has baffled the surgeon, but he is even more likely to do harm. He may make a lucky hit in the field of medicine, but as he is ignorant of pathology, and his diagnosis is mainly guesswork, it is evident that his intervention may be fraught with serious risk to the patient. The British laws are very tolerant of irregular medical practice, much more tolerant than the laws of most civilised countries. In the field of medical practice there still lingers in the public mind something of the *laisser-faire* spirit of the now discredited Manchester school of politicians. *Caveat emptor* is a favourite maxim with the British people. The vague idea that, as we are a free nation, it is an infringement of public liberty to check irregular medical practice is widespread. But it is a shallow and short-sighted conception. The State which protects us against adulterated foods has no right to permit the sale of powerful and often poisonous drugs under some [illegible] civilised states and insist that the public shall know what it is buying.

It is not, however, to such obvious matters that I conceive I am requested to direct your attention, but rather to some of those ultimate principles which must regulate the relations of our profession to the public, if those relations are to be mutually satisfactory, if the prevention and cure of disease are to be successfully promoted, and if the interests of medical science are to be conserved. Just as the wise administration of the law is a matter not of mere professional interest but of fundamental national importance, so the cultivation and successful practice of medical science is a matter which concerns not the medical profession only, not our nation only, but our common humanity. For life, work, and happiness nothing is more essential than health. No interest is more vital to the State than the physical well-being of its inhabitants. If the practice of medicine is not wisely regulated, if it is not accorded due recognition and adequate reward, if it is harassed by unwise legislation, if it ceases to attract the best minds to its service, it is the public, the nation, which in the long run will suffer.

A Glance at the History of Medicine.

It may not be amiss to begin our survey by a glance at the past. The history of medicine, which is far too little studied, is full of instruction for us. We are apt to underrate the achievements of our remote predecessors in the field of medicine, and to imagine that where there was little science there could be no successful art. But the history of medicine in *Mesopotamia, in Persia, in Egypt, and, above all, in Greece,* shows with what zeal and insight the phenomena of disease were studied in early ages, and how many wise and successful methods of treatment were in operation. The *history of medicine* may be compared to two parallel currents. One current begins in magic and sorcery, passes through priestcraft, and ends in science. The other current is that of empiricism, which flows parallel to the first current, and sometimes rivals or surpasses it in volume and in strength. Primitive man attributed disease to demonic power; treatment was conceived as a contest between opponents, each [illegible] wielding the weapons of sorce[illegible] by magic. In this stage of [illegible] and the witch doctor represe[illegible] later stage the conceptions of [illegible] tion, fumigation, fasting, &c., make their appearance, and the palliated, to be sure, by well-adjusted belts, and the steady advance in bulk be checked to some extent. But no form of belt with which I am acquainted will prevent a large ventral or umbilical hernia from escaping from the ring. Belts may help a patient who is debarred by some grave ailment from undergoing an operation, but only by controlling the weight of the protrusion, and even that only imperfectly. In the future it is to be hoped that fewer and fewer people will be allowed to acquire large herniæ and to drift into middle life with them without some well considered attempt being made to cure them by operation.

It must not be forgotten that unless they are relieved of their herniæ they are constantly subjected to risks of several kinds. Among these may be mentioned strangulation, incarceration following on constipation, and all the evil results to general health which depend on curtailed active exercise. Illustrations of this are only too frequent in all walks of life. And these risks and disabilities have to be balanced against those of operations for their relief. The latter, real enough in former years, are apt to be too much emphasised at the present day, and one has seen many cases restored to activity and excellent health who have been operated on in the face of chronic and even acute bronchitis, of alcoholism, albuminuria, and glycosuria. The fact is that each case must be considered for itself and the *pros* and *cons* carefully balanced before a final decision can be come to. In practice some of the apparently least favourable cases have turned out the best in the end. Experience alone can guide us in our choice. Let us take an illustration or two.

Successful Operations in Unfavourable Cases.

I was called some time ago to the country by Dr. C. R. A. Sutton, of Sidcup, to see a very stout lady, weighing 18 st., who had had a large umbilical hernia for several years. A few months before she had had a "stroke," with left hemiplegia, which was still present. A day or two before I saw her the left side of the skin over the sac had become gangrenous and had given way shortly before my visit, exposing the contents, which consisted of small intestine. As the surface of the skin around the sac was eczematous and very foul, boracic fomentations were applied over all for 24 hours. Then, as the patient had bronchitis, I operated under local analgesia. The whole of the gangrenous skin and sac were excised and the peritoneum stitched up. The rectus sheath on each side was split up on its inner border from above downwards and the proximal borders of each united in the middle line over the peritoneal suture. A wire filigree was then inserted under the outer edges of the rectal sheaths on either side, and these were stitched over the network. Skin suture followed. Primary union was found to have taken place at the first dressing. Perfect recovery followed, and the patient was able to travel to Scotland not long after and remains quite well now, as Dr. Sutton kindly reports. More unfavourable conditions could hardly be thought of in view of the hemiplegia, the bronchitis, and a gangrenous sac. It may be said that here there was no choice but to let the patient die, and therefore the operation was quite justifiable. That is so, but the case proves that very unfavourable conditions do not always render an operation hopeless.

Another case illustrates the same thing. A gentleman aged 72, formerly of sporting habits, had been for a long time prevented from taking any active exercise by a very large right inguinal hernia, and he expressed himself as very miserable. His general condition was not good in several respects. He was described by his family adviser, Dr. J. F. Macpherson, of Basingstoke, as "chesty," as having at times albumin in his urine, and as living very well. Every kind of truss had failed to control the hernia. I was asked to operate as he was determined to face the risks put before him to obtain relief. Spinal analgesia was considered the safest method of relieving pain and obtaining perfect relaxation which was necessary on account of the size of the protrusion and the wide ring to be closed. The ordinary Bassini operation was done under the most ideal conditions as to relaxation and quiet breathing and cheerfulness during operation, and convalescence was absolutely uninterrupted; not a hitch occurred from beginning to end. I have heard of him within the last few days as enjoying his restored activity during the six months which have elapsed since the operation.

It is not necessary to add to these two cases, which occur to me at the moment, to emphasise the fact that adverse general conditions do not always contraindicate operative interference; many more might be cited. It is a question of selection of cases here as always in surgical work. And in addition we have to study, when conditions are not as favourable as could be wished, whether they cannot be improved by general measures until an operation is admissible.

Factors Supposed to Contradict Operation.

It is worth while to consider now briefly what are some of the factors which are often thought to weigh against operative treatment of hernia. In the first place, let us take the size of the protrusion. I venture to think that there are not many herniæ too large for operation. There may be a few. But the reasons why we are well advised to refrain from operation in such cases are not always realised. It is not the actual size of the tumour that is the obstacle, for we know that many other as large or larger abdominal tumours, involving even greater interference with the viscera, may be removed safely. It is the fact that these voluminous herniæ *are not going to be taken away*—that is the difficulty. These bulky masses *have to be returned into the cavity of the abdomen*—that is the trouble. When a large bulk of the abdominal contents have escaped beyond the control of the parietal muscles the latter contract and the peritoneal cavity becomes smaller. If this condition of things has lasted long, perhaps for years, the reduction of the protrusion may be very difficult even without the presence of adhesions, and may be resented by the abdominal muscles which have accommodated themselves to the reduced capacity of the cavity. It stands to reason that if a very large hernia containing much omentum and other fat be returned into the peritoneum the pressure within is considerably increased, and sometimes with very injurious effects. Perhaps the worst of these is interference with the movements of the diaphragm. This might be of less importance to younger people, but among those past middle life with more or less rigid thoracic walls, and relying to a great extent, therefore, upon abdominal breathing, the embarrassment of the latter may be serious. This risk is accentuated if the lungs be emphysematous, or if the patient suffers from acute or chronic bronchitis, or if he be very obese and the heart be weak. I have heard and read of such cases, though I have not seen them, where the interference with respiration and cardiac action has been fatal: the patients have simply been suffocated because the movements of the diaphragm were obstructed.

A patient affected by the conditions just alluded to should be put to bed for some weeks on a strict regimen to reduce the amount of fat and fluids in the tissues, and daily attempts should be made to return and retain the hernia within the abdomen. If the mass can be reduced and cause no embarrassment to respiration, one element of danger is eliminated. The restricted diet and, before all, the denial of fluids may be reinforced by purgatives regularly to unload the bowels and further reduce the volume of the abdominal contents. There can be no doubt that many cases can be brought well within the reach of operative treatment by these means. Of course, acute bronchitis, marked albuminuria, or much sugar in the urine contraindicates immediate operation, except in cases of urgency. But even these conditions may often be ameliorated by treatment in bed with suitable remedies and free purgation, after which operation may be admissible. The very fact, so often seen, that where an operation has been unavoidable on account of strangulation, the patients have recovered in spite of the presence of these general diseases enforces this conclusion.

The next point which requires consideration is age. I do not think, apart from the conditions referred to, that age, unless it be *very* advanced, affects the question of operation necessarily. In extremely old people, of course, it is doubtful whether operation for any condition is, so to speak, "worth while." They are near the end of life in any case, and may be disposed to accept the ailment in question as their last message. Unless they are undergoing intolerable suffering they may, perhaps, be fairly left to any palliative measures suitable to their case. But we all know that many persons at 70 are younger in tissue and general vitality than others at 50. I recall a case in which some three years ago I was asked to operate on a patient on or about the anniversary of her eighty-fifth birthday for carcinoma of the transverse colon, which was causing intolerable pain. I very seriously doubted the propriety of interference at such an advanced age, but she insisted that it should be done. The result was complete relief, and she lived in comfort for 15 or 18 months longer, dying at last of old age. Such cases remind us that years alone should not be a criterion in questions of operation.

Great obesity is another condition which deters many patients from contemplating operative relief, and some surgeons from attempting it, and doubtless it is an undesirable factor. But there are many very stout patients whose general health is very vigorous and whose tissues have lost but little vitality. These may be operated on with but little extra risk. *It is the pasty, flabby, anæmic corpulence* [illegible] ted, a [illegible] in bed [illegible]

The possibility of extensive adhesions in large herniæ has also to be carefully considered. These in a lesser degree are common in such cases, but it is only when they are very extensive and involve the intestines that they become a serious obstacle to operation, mainly on account of the time lost in dealing with them. If it is only a question of adhesions between the omentum and the sac—and this is the most common condition—there is a formula I always adopt which renders them immaterial during operation. The long and tedious process of separating them is unnecessary. The omentum at the neck of the sac above where it is unadherent is simply drawn out of the abdomen, tied in whole or in part, and cut below the point of ligation. The *sac is then removed with all the adherent omentum.* This saves much time and bleeding. To tie off the root of a large omental protrusion, controlling its vessels with a few fine sutures, is a simple, quick, and effective measure. To divide old and widespread adhesions one by one on both sides is quite another thing, and if it were done the reduced omentum would carry into the abdomen many ligatures and raw surfaces likely to produce fresh adhesions within the abdomen.

In most cases of large herniæ it is not difficult to determine beforehand whether the contents are adherent to the sac or not. The duration of the existence of the rupture is some help. For it may be taken as a general rule that the older a hernia is *the more likely* are adhesions, *especially if its neck is small. If the patient has had from time to time* evidence of incarceration of the bowel—that is, more or less obstruction in it without actual strangulation—we may expect adhesions. It is believed that in these cases interference with the return of blood from the extruded bowel has led to its *engorgement and the exudation* of lymph on its surfaces. Besides this there has probably been transudation of toxins, and in some cases of bacteria, which can, we know, pass through congested though still living tissues, exciting a septic exudation and still firmer adhesions. Of course, when the rupture returns on the patient going to bed the case is simple. But in some cases of omental hernia which do not *thus return or even cannot be coaxed back* by taxis there are no adhesions. The reduction is prevented by the condensation of the omentum into a hard rounded fibrous mass which cannot pass the neck of the sac. This *is often seen* where ill-fitting and too powerful trusses have been long worn without proper reduction of the mass. Reducibility of a hernia without any interference with the movements of *the* diaphragm or other evidence of intra-abdominal pressure may be taken then as a factor favourable to operation. In some cases *a great proportion of the contents,* usually intestine, can be reduced by patience, but a certain amount remains irreducible. But as this is generally omentum it is immaterial, as it is to be removed with the sac.

The development of the muscular and fascial walls round the hernial opening has always to be considered in reference to the propriety of operation. The ring may be unusually [illegible] This was [illegible] But at [illegible] and the [illegible] rees the *objection has not its former force. Patients at the time of* life at which we are usually called upon to perform operations on large herniæ are not as a rule likely to make unusual muscular exertion for the rest of their days and can learn to spare themselves after operation.

As to the skin over and around large herniæ it is often thin and eczematous. It can, however, be rendered at least healthy and aseptic by judicious treatment during the time the patient is more or less confined to bed as recommended above. Moreover, as most of the skin will be removed with the sac between *incisions in healthy parts on either side,* the state of the skin over most of the sac is no obstacle to operation, as is indicated by the first case described above, where the integument and sac were gangrenous and very foul, and yet after their removal the healthy coverings obtained from the sides healed per primam.

When we study all the foregoing considerations I confess that the arguments against operating must be based upon very clear and special indications to influence me to refrain. Risks there are in these and all operations, but they are not very great, and the stake to be won is a very valuable one. Moreover, the risks of *not operating* are considerable, both as regards the general health and the local condition. It is a *frequent experience to see neglected herniæ in the most serious condition which might have been avoided* by an earlier operation.

The Preferable Operative Measures.

We can now consider in general terms the operative measures which can be adopted for these large herniæ.

But first and before all it is well to be clear that the preparation of the patient has the most important bearing upon the success of our procedure. Most people with herniæ, as we have seen, are past middle life and obese. As a rule, their general condition will be improved by a stay in bed for two or three weeks, not necessarily all the day or in *a recumbent position, which some cannot tolerate.* The reasons for this I have already stated. Fresh air and mental quiet are also to be secured. If the protrusion can be reduced into the abdomen every effort should be made to retain it there in order that all the viscera shall become accustomed to its presence once more, and especially the diaphragm. Pulmonary, cardiac and renal troubles may of course be so marked as to contraindicate any operation, but in their milder forms may be improved by the rest in bed combined with dieting and suitable drugs. Some or all have often been present in cases of strangulated herniæ, and have not frustrated the operation or prevented recovery, as we know.

The rest in bed will also usually enable us to secure the *highest possible standard of cleanliness of the skin all over the field of operation. This is not always an easy matter,* for large herniæ are very prone to become eczematous under the pendulous parts, especially if umbilical or ventral, and this intertrigo is apt to become very foul. Large herniæ about the groin, too, require great care in this respect. All will require daily washing with the hottest water that can be borne and often astringent antiseptic lotions for a long time before we can trust them to be practically aseptic. No operation should be done that can be avoided until we are sure of our ground here. Finally the night and day before operation there is no better antiseptic application than a 2½ per cent. solution of iodine in ethylene dichloride painted *freely over the whole field of operation.*

The question of the proper anæsthetic to be used will be variously answered for different cases. I do not think any hard-and-fast rule should be followed. A local anæsthetic is, of course, *the safest, and I use it frequently.* But for very large herniæ it is difficult to secure perfect analgesia over the extensive area involved, and it does not produce that general muscular relaxation which *is so desirable* when we have to reduce very bulky contents.

Inhalation of ether has much to recommend it if combined with a preliminary injection of atropine, especially if the operation be protracted. But it is apt to produce coughing and straining, which are very embarrassing when the hernial contents have to be replaced, and respiratory troubles are likely to follow its prolonged use.

Venous infusion of ether is well suited for these cases, giving good relaxation and perfect quiet when well administered. It keeps up the patient's strength, too, during a long operation by virtue of the amount of saline solution carrying the ether. There is less objection here to its undoubted *effect of encouraging bleeding, inasmuch as* the tissues to be divided in a hernia operation are less vascular than in most others.

The objections to chloroform in good hands are, in my opinion, not great as a rule, but when pushed as far as absolute relaxation, so desirable in these cases, its dangers are well known.

Spinal analgesia well carried out gives ideal conditions for the operator, and though it has dangers, the full extent of which are not yet known, it is superior to the foregoing in many ways. I have used it now in some hundreds of cases of hernia operations without a fatality, and it has certainly facilitated the accurate performance of them to a degree that no other anæsthetic could do. The absence of rigidity of the muscles and of all respiratory excitement during and after operation renders the procedure very easy. Then the patient can take nourishment within a few hours, and this is of great importance, especially in elderly people. But, as I said before, each case must be considered on its merits.

It is assumed that in all these cases purgatives have been freely used for reasons given. These should, however, be stopped at least 48 hours before operation, to give rest to the bowels, which are otherwise likely to be distended with gas. The night before operation an enema will clear out the rectum and relieve flatulence if some turpentine be added.

As to the various methods of operation to be performed for these large herniæ, I have described them so recently in the "System of Operative Surgery," edited by Mr. F. F. Burghard,[2] that it is not necessary to go into detail about them, but some general remarks on them will not be out of place.

Speaking generally, I have in almost every case found Bassini's operation carried out with every attention to detail to be quite adequate for all inguinal herniæ great and small, and I consider it the best method when done with care. In some cases where the tissues are very slack the modification of overlapping the edges of the rings described by Halsted[3] will be found to give a thicker scar than that formed by merely drawing the edges together. The large sac need not be dissected formally out of the scrotum. At its neck, of course, it must be separated and for some little distance. To do more is to risk considerable oozing into the areolar tissue of the scrotum and a troublesome hæmatoma. An exception to leaving the sac intact in the scrotum is when the contents are almost universally adherent. Then it should be removed with the attached omentum. When this is separated at the neck and well drawn down it is tied off and cut across, the lower part of the sac when adherent to the omentum being taken away with it, or if non-adherent left open, as much of it being removed as was separated below the neck. It must not be forgotten that when the veins of the cord are pressed upon by the reduced rings an engorgement of the veins of the scrotum follows which favours oozing, so that all small and large bleeding points should be attended to before the wound is closed. If, in spite of this, there is still a tendency to ooze, a drain should be introduced for 24 hours, as a hæmatoma in this region may be troublesome. After 24 hours the drain will probably do no good, and may even form a track for the infection of the part from without. The possibility of septic matter lurking in the folds of the scrotal skin and its hair, sebaceous and sweat follicles, must always be borne in mind. Unless great care has previously been taken in the daily preparation of the scrotum to encourage these glands to act freely and carry any hidden bacteria to the surface, the danger of infection during or after operation is considerable. Frequent washings with soft soap and water as hot as can be tolerated are called for, followed before operation by the iodine solution. But the latter must be used with caution, as I have seen it produce eczema in some cases. In many cases the washings, supplemented just before operating by the free use of spirit, will be quite sufficient. A moist eczematous condition here may be very troublesome.

As to the use of silver filigrees inserted deeply in inguinal herniæ to add strength to the abdominal wall, I venture to think that in the large majority of cases they are unnecessary. A strong enough barrier to the redescent of the hernia can be made without them by suturing. But I have used them, I think with advantage, in some few cases where the structures were very thin and atrophied; at all events, they appear to be less required and more difficult to arrange here than in the large ventral and umbilical herniæ. In the latter they seem to me to be of the greatest value, not only because they give a certain amount of support for a time, but because I believe their presence in the tissues provokes an exudation of lymph without sepsis, which organises into particularly firm fibrous tissue. I have seen to-day a man the greater part of whose left rectus muscle I had to take away three years ago because it was involved in a carcinoma of the transverse colon which had fungated through it. Here there was little or nothing to replace the muscle, and I covered the opening with a silver filigree and drew the skin over it. And now, though the scar is very thin, thin enough to be moved by the intestines underneath it, there is no hernia, although the man plays golf and is a performer on a wind instrument. Both these strains are well borne, and would infallibly have caused a hernia if the support had been as weak as it certainly appears thin. The use of these filigrees is only required, as a rule, in very obese people with one or other form of ventral hernia the rings of which are loose and so thin that there is but little material to work upon for making a firm barrier to redescent of the rupture. Here the filigree may be inserted either directly upon the closed peritoneum and transversalis fascia or within the sheaths of the recti muscles after they have been opened vertically on either side; the edges of the sheaths being united over it and the skin over this. Many ingenious plastic operations have been devised to meet the needs of these extreme cases, and some of them I have practised. But none appear so rational and feasible as the support by filigrees. Several objections have been raised to their use. So far as I can see the most justifiable is that the wire may break in course of time, and the broken ends cause irritation. This has happened, but is only of moment if too thick a wire has been employed. When the wire is very fine no harm can arise; the network remains a support broken or unbroken, and from what I have seen the fibrous tissue formed about it is particularly firm and strong.

Another objection is that if suppuration occur the wires must be taken out, and this is a matter of great difficulty and leads to weakening of the scar. But this need not be done. I have planted filigrees in wounds actually suppurating, and far from their keeping up the inflammation, they have appeared to control it, probably, as has been pointed out, because of the silver salts produced in the tissues by chemical action on the wires. The antiseptic action of the silver salts is well known. Be this as it may, I have seen such suppurating and granulating wounds heal over the wires in a way which suggested that they were quite harmless if not beneficial, as in the case quoted just now which I have seen to-day. Once recently, in operating through an old abdominal scar into which some surgeon whose name I do not know had inserted a wire network, I came upon many broken pieces of silver wire and removed them. But these were far and away too thick. They were somewhere about a millimetre in gauge instead of being like medium-sized sewing thread. The fact of the matter is that some scores of my cases have been going about for years with these filigrees in their scars, and from what I have seen of them I feel sure to their benefit. Indeed, in some cases of very large herniæ with wide thin rings it is hard to imagine any other mode of giving support.

In this brief sketch of a very large subject I have tried to give some general considerations which have guided myself in dealing with a most troublesome class of cases. I have, in the first place, had no mortality among them, which shows that it is possible to avert the dangers which have undoubtedly to be faced. And the results *quâ* non-recurrence have been very encouraging. In some very obese patients, with more or less pendulous abdomens, I advise them to wear a well-fitting broad belt or bandage after operation for ventral hernia. This will help to bear some of the weight of the parts. But in most cases this is not necessary. These patients should also be advised to avoid everything which contributes to their corpulence and to take regular moderate exercise. For every reason the amount of fat in their tissues should be reduced.

Before closing, may I draw attention to a snare which sometimes awaits the inexperienced in operating in inguinal herniæ with large rings? This is the presence of part of the bladder in the sac. I have seen many such cases (two operated on in private since this lecture was sketched out) and recognised the condition in time to avoid injury to the viscus in every case. But it is a condition which might easily lead to disaster, and has done so, as we know from several published cases.

Harley street, W.

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[2] System of Operative Surgery, vol. ii., p. 594. London: Henry Frowde and Hodder and Stoughton.

[3] Ibid., vol. ii., p. 596.

THREE CASES OF POLYCYTHÆMIA.

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With Report on the Necropsy in One Case

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THE subject of polycythæmia has been discussed so recently, so elaborately, and with such lucidity by Dr. Parkes Weber[1] that only a brief statement is required by way of introduction to the following records of cases. It may be recalled, however, that polycythæmia (polycythæmia rubra, polyglobulism) means an excess of red corpuscles (erythrocytes) in the blood. This excess may be relative or absolute.

I. Relative polycythæmia is due to concentration of the blood, as in cases of severe [illegible]

II. Absolute or true pol[illegible] vera) is due to excessive [illegible] marrow. In this condition the hæmoglobin is increased as well as the erythrocytes, but the colour index is usually below 1. The total volume of the blood is often, if not always, increased (polyæmia, plethora vera). The viscosity of the blood is increased. The coagulability varies independently of the richness in erythrocytes and hæmoglobin. True polycythæmia may be either symptomatic or primary.

1. Symptomatic or secondary polycythæmia is an erythrocytosis, analogous to a leucocytosis. It is met with in cases of chronic cyanosis associated with heart or lung disease, and *it is also found in man and other animals living at high* altitudes. This erythrocytosis is compensatory in its nature, and is attributable to stimulation of the bone marrow by the deficiency of oxygen.

2. Primary polycythæmia or erythræmia is analogous to leukæmia, *there being no obvious reason why the bone* marrow should show the excessive erythroblastic activity. It is known by a variety of names, including "Vaquez's disease," "Osler's disease," "splenomegalic polycythæmia," "myelopathic polycythæmia," "polycythæmia with chronic cyanosis," and "erythrocytosis megalosplenica." These titles, however, are not all suitable, since cyanosis is absent in some cases, while in other cases there is little or no splenic enlargement. Whether the syndrome represents a single morbid entity, a disease *sui generis*, may be more definitely ascertained when a greater wealth of pathological and clinical material has accumulated, and the degree of affinity between the different types can be more precisely determined.

The symptoms in the initial stage may be of a vague as well as varied character, and it is probable that the disorder of the blood may exist for a considerable time before it causes any grave or manifest disturbance of the general health. It is further probable that the disease would be found to be more common than is generally recognised if an examination of the blood were a more constant routine of clinical work. The following cases illustrate different aspects of the affection.

CASE 1. *Polycythæmia; cyanosis; ? splenomegaly.*—Captain X. Y., aged 47, formerly a master mariner, but now employed on shore, was [illegible] Oct. 2nd, 1911.

[illegible] k as December, 1906, the [illegible] ndition of the urine, but no [illegible] He gave a history of con- [illegible] wer abdomen, but nothing [illegible] t was afterwards discovered that he had a stricture, and he was sent to a surgeon for treatment. [illegible]

[illegible] attack.

[illegible] of the teeth were bad. [illegible] stomach, which were [illegible] week he would have a [illegible] up, followed by a little [illegible] It was seldom that he [illegible] that he had lost about [illegible] was no marked loss of strength.

Examination showed that, with the exception of lack of purity of the second aortic sound, the physical signs connected with the heart were [illegible] *disease of the aortic arch.* The [illegible] ps thickened. The lungs were [illegible] he spleen or superficial lymph [illegible] appearance.

The patient had never suffered from malaria, dysentery, or yellow fever. He used to smoke about four ounces of tobacco weekly, in [illegible] nded to diminish the consumption [illegible] ondition of the fauces improved. [illegible] of Gregory's powder was recom- [illegible] ll dose of mercury was to be taken twice a week, and he was to have a tonic containing nux vomica. Red meat was to be taken only once a day, and he was to guard against constipation.

April 29th, 1912.—The patient called again to see me He had not been at sea since his last visit, but was on full duty ashore. The following is an account of his condition.

He says he has lost little weight, if any, since his last visit, and he feels much better in every way than he was two years ago. His stomach and bowels are now in very fair condition, though the tongue [illegible] thick fur. The appearance of the face [illegible] or purple colour over the nose and [illegible] ins; but over the rest of the face, [illegible] olour is red without any admixture [illegible] The appearance is the more striking in view of the complete absence of any evidence of respiratory embarrassment. He says that when he walks smartly the face is particularly apt to become blue, but he has no shortness of breath, [illegible]

[illegible] The abnormal redness is seen on the surface of [illegible] In any part [illegible] rief duration [illegible] red and the retinal veins are large and very dark in colour, but otherwise the fundi are normal.

[illegible] at work during the whole of the year 1911, but did not resume duty after last New Year holidays. He had lost much flesh and strength since the New Year.

It was found [illegible] the spine in th[illegible] stooping, but r[illegible] patient walked [illegible] an indoor patient on May 21st, 1912, and he remained in the wards till June 21st.

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[1] Quarterly Journal of Medicine, vol. ii., No. 5, October, 1908.

Previous health.—He had pneumonia on the right side about 12 years ago, and he fancied he had never been quite so strong since. He had catarrh of the stomach eight years ago, and was very ill for 14 weeks. He had always been nervous and given to worrying. No information was obtained as to the family history.

Condition while in the wards.—Examination of the heart, lungs, liver, spleen, superficial lymph glands, testes, rectum, urine, and fundi revealed normal conditions. The appetite was fair. There was no vomiting, and the bowels were regular. The temperature was subnormal all through, and the weight remained constant. There was pain on pressure over the internal semilunar cartilage of the left knee-joint.

Examination of the blood showed that it was abnormally rich in red corpuscles, and at times in hæmoglobin also. The white cells might be normal, or deficient, or excessive in number. The colour index was usually below normal.

Date.	Red corpuscles per c.mm.	White corpuscles per c.mm.	Hb. per cent.	Colour Index.
May 25th, 1912	6,700,000	3,125	100	0·75
,, 30th ,,	5,834,000	12,500	120	1·0
June 14th ,,	7,133,000	8,432	110	0·77
,, 20th ,,	6,500,000	8,750	110	0·85

Differential count of white cells.—Polymorphs, 56·12; lymphocytes, 26·02; mononuclears, 17·34; and basophiles, 0·51.

Blood pressure (Oliver's manometer).—May 31st, 1912: systolic, 120 mm. Hg; maximum pulsation, 100 mm. Hg; minimum pulsation, 80 mm. Hg. June 20th, 1912: systolic, 135 mm. Hg; maximum pulsation, 105 mm. Hg; minimum pulsation, 70 mm. Hg.

The blood was examined bacteriologically by Mr. J. Archibald Campbell, and was found sterile after 72 hours' incubation.

On June 20th it was noted that there had recently been distinct hyperæmia observed on the surface of the body, not only on the face, but also on the trunk, forearms, and hands.

Condition in September, 1912.—The patient called at the wards on Sept. 9th and 10th. He still complained of general weakness, and said that he became short of breath on going upstairs or walking any distance. His weight had fallen from 8 st. 7 lb. on June 15th, to 8 st. 3 lb. on Sept. 10th. The pinkish colour of the forehead was still recognisable, [illegible] merly.

There was [illegible] of the heart, and the heart sounds were n[illegible] dilatation of the aortic arch. The radials w[illegible] eir tension did not appear to exceed the normal. The lungs were healthy. A scar was found in front of the right sternomastoid muscle, where an operation had been performed in boyhood, but elsewhere the superficial lymph glands were normal. There was no enlargement of the liver, and no certain enlargement of the spleen. The optic discs were healthy.

On Sept. 9th the red corpuscles numbered 7,800,000 and the white cells 3000 per c.mm. The hæmoglobin was 110 per cent., and the colour index 0·7.

CASE 3. *Polycythæmia; splenomegaly; excessive arterial pressure; arteriosclerosis, with gangrene of the toes, fibrosis of the kidneys, and retinal changes; no cyanosis; fatal issue and necropsy.*—The patient, aged 45, Jewish, a tailor's presser, was admitted to the Royal Infirmary under the care of Mr. H. Rutherfurd, on August 11th, 1911. The man's complaint was of pain in the toes of both feet, which had troubled him for four months, and had been specially severe during the last few weeks. It was found that gangrene was threatening the toes, the arteries were sclerosed, the spleen was enlarged, and the urine contained albumin. As the case was recognised to be medical rather than surgical he was transferred to my wards on August 18th.

According to the history given, pain set in gradually in both great toes about the beginning of May, 1911. The condition of the right great toe became steadily worse, and a month or two before admission its colour became dark. There were tingling and pricking as well as pain, and sleep was much disturbed. The left great toe became easier. The patient continued at his work until two or three weeks before admission.

Past history.—The patient was under the care of Dr. Ebenezer Duncan in the Victoria Infirmary from April 9th to May 27th, 1905, and through the courtesy of Dr. Duncan and the superintendent, Dr. D. O. Macgregor, I have been able to ascertain some facts about his condition at that time. His age was stated to be 40, and he was admitted as an urgent case of hæmatemesis. It was reported that his stomach had troubled him for some years, an[illegible] been gradually becoming blind during the two [illegible] his admission (see, however, later in this [illegible] lungs were found to be healthy, and no tumour or dilatation of the stomach could be detected. The spleen was much enlarged, its lower border being at the level of the umbilicus and its anterior border almost at the middle line. The red corpuscles numbered 2,900,000 and the white cells 22,800 per c.mm. A differential count of the white cells showed the polymorphs to be 73·9, the lymphocytes 20·6, the eosinophiles 2·4, and the large mononuclears 3·1 per cent. The right eye was found to be blind, with atrophy of the disc, and with disturbance of [illegible] The patient got on very well so far [illegible] were concerned, but Dr. Macgregor [illegible] rived from X ray treatment of the enlarged spleen.

The continuation of the past history, which was obtained after the patient's admission to the Royal Infirmary, shows that he had left-sided pleurisy four or five years ago. From about that time onwards he suffered from frequent headaches and from constipation. He continued liable as before to suffer at times from pain in the stomach after taking food. After some years he got into the way of drinking more fluid and passing more urine than before, and he found that he was very easily fatigued. After the trouble with the toes began he lost flesh. He claimed to be a very [illegible] that he spent scarcely 10*s.* a year on liquor [illegible] ever had any venereal disease, though he adm[illegible] nfection. In May, 1912, while he was resident in the wards, his blood was examined by Wassermann's test, and this was found to give a negative result.

He had not suffered from shortness of breath, palpitation, faintness, giddiness, or tinnitus. It may be added here that at no time was cyanosis a feature of his case.

Family history.—His parents both died in old age. The family consisted of five members, all of whom survived. The other four were healthy. The patient himself was married and had four children, all of whom were healthy.

Condition on admission (August, 1911).—The right great toe was painful, swollen, cold, extremely tender, and discoloured, being partly red and partly dark blue. The left great toe was slightly discoloured and tender. The pulse was regular and of high tension, and the arterial walls were thickened. The apex beat of the heart corresponded to the nipple line. There was no murmur. The lungs were healthy. The liver did not appear to be enlarged. The spleen was considerably enlarged, so that its lower border could be felt at a level half an inch above the umbilicus. The urine contained a trace of albumin, but no sugar. There was no œdema of the legs. The reflexes were normal.

Other facts noted in the course of his residence are as follows:

Eyes.—The patient stated that he became suddenly blind in his right eye 17 years ago, when he was in excellent general health. There was pain in the eye for some weeks before the blindness set in. Examination showed that the disc was atrophied and that the arteries were greatly narrowed. In the macular region there were white spots and streaks of degeneration, and there were in addition numerous collections of black or brown pigment. This eye was the seat of severe pain for some weeks before he became blind. On account of the blindness in the right eye no mydriatic was used at this period for the left eye, and the macular region was not properly observed. It was noted, however, that the disc was hyperæmic.

Blood.—In the course of his resid[illegible] varied from 5,800,000 to 6,400,000, and [illegible] to 20,400 per c.mm. The hæmoglobi[illegible] The colour index, therefore, was below [illegible] the white cells on Nov. 29th gave the [illegible] eosinophiles, and basophiles, together, [illegible] 21·23 per cent.; transitionals, 1·77 per cent.; myeloblasts, 0·4 per cent.; and mononuclears, 0·9 per cent.

The systolic blood pressure was from 180 to 210 mm. Hg. There was some enlargement of lymph glands in both axillæ and in the left groin. The distal portion of the right great toe dropped off on Dec. 3rd.

Dismissal.—The patient was dismissed on Dec. 15th "improved." He had been treated principally by opiates, which were needed to relieve his pain, but from Oct. 9th to Nov. 25th he got potassium iodide in doses of 10 grains thrice daily.

Readmission.—He was readmitted on March 9th, 1912, on account of pain and discoloration in the toes of both feet.

Note of May 3rd, 1912.[2]—Since his readmission on March 9th the patient has suffered a good deal of pain, either in his feet or in his head. Several of the toes of both feet are the seat of actual or threatened gangrene, and the pain associated with this condition has required opiates for its relief. For a time he suffered severely from headaches, but the regular administration of trinitrin, and the use of phenacetin and citrate of caffeine, were followed by excellent results. The temperature has been almost uniformly subnormal. The pulse-rate has been slightly accelerated. General cyanosis is not a feature of the case. The splenomegaly continues. There i[illegible] ment of the liver. The enlargement of the [illegible] there is no murmur. The lungs appear to [illegible] blood pressure was 210 mm. Hg on readmission, but fell during the administration of triniti[illegible]

The condition of the [illegible] is present residence. The red corpusc[illegible] on readmission to 4,000,000 per c.mm. [illegible] fell from 120 to barely 100 per cent., and [illegible] 125 per c.mm. A differential count of the white cells made yesterday showed the polymorphs to be 81 per cent., the lymphocytes 13, and the large mononuclears 5 per cent. The blood readily penetrated the papers used in connexion with two hæmoglobin scales. Dr. H. H. Borland found this morning that the coagulation period of the blood was 6 minutes 5 seconds.

The urine has recently had a specific gravity varying from 1008 to 1015. Albuminuria is distinct, but there is no sugar. On a recent date, by aid of the centrifuge, a considerable number of granular casts were detected.

[illegible] after dilatation of the pupils, [illegible] imilar to that described in the [illegible] ative changes in the macular [illegible] In the left eye there is neuro-[illegible] isable except in a dim way at the lower inner part. The evidence of the swelling of the papilla is most distinct at the upper and upper inner parts. Linear hæmorrhages are present. In the macular region there are early degenerative changes of albuminuric type. Low down in the fundus there is a circular, reddish-brown area, which suggests a hæmorrhage clearing away.

Last phase of the illness.—In the latter part of his life the patient suffered greatly from pains in the legs, and required large doses of opiates. On May 9th an examination of the blood showed that the red corpuscles numbered 4,200,000 and the white cells 10,000 per c.mm. A differential count of the white cells made on May 12th showed that the [illegible] to 73·4, the lymphocytes to 18·0, the mono-[illegible] philes to 1·8, and the mast cells to 0·5 per cent. [illegible] rly in June it was noted that gangrene was [illegible] the feet, and several of the toes were separat-[illegible] iver was found to extend two inches below the costal margin. Blood taken on the same day by Mr. Campbell for [illegible] tion proved to be sterile after 72 hours' incuba-[illegible] on June 21st.

[illegible] st important remedy was opium or one of its derivatives, which was rendered necessary during a great part of the patient's residence by the severity of the pain. From Oct. 9th to Nov. 25th, 1911, he got potassium iodide, in doses of 10 grains, thrice daily. In March, 1912, he got a tonic containing sodium bicarbonate, [illegible] On March 29th trinitrin was begun, and this [illegible] On May 15th he began to get the [illegible] for excessive arterial pressure, and [illegible] consisting of potassium nitrate and potassium bicarbonate, of each 10 grains, with sodium nitrite 1 grain, to be taken each morning in hot or aperient water. An attempt was made in the end of May and beginning of June to apply X rays over the spleen but this had to be desisted from on account of the feebleness of the general condition

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[2] The patient was shown on this date to the Glasgow Medico-Chirurgical Society.

The following table shows the blood counts and the hæmoglobin at different dates —

Date	Red corpuscles per c mm	White corpuscles per c mm	Hb per cent
August 21st 1911	5 800 000	17 200	95
Sept 3rd ,,	5 960 000	12 400	100
,, 14th	6 400 000	20 400	110
Nov 3rd ,	5 600 000	11 800	95
, 27th ,,	6 400 000	16 100	115
Dec 9th ,,	6 330 000	12 800	120
*March 9th 1912	7 200 000	16 200	120
,, 19th ,	6 850 000	12 800	120
, 31st ,,	6 200 000	11 808	120
April 12th ,	4 960 000	—	90
, 19th ,	5 200 000	—	100
May 2nd ,,	4 000 000	13 125	—
,, 9th ,,	4 200 000	10 000	—

* On readmission

It has been known for some time that there is a special group of cases of erythræmia which is characterised by excessive blood pressure, and the recognition of the fact is due largely to the work of Geisbock Indeed, the late Professor Senator, in his essay on "Polyzythämie und Plethora," published in 1911, divides cases of primary (idiopathic) polycythæmia into the two classes (1) polycythæmia rubra (erythrocytosis) megalosplenica, or Vaquez s disease, and (2) polycythæmia hypertonica (Geisbock) He points out that Geisbock's disease is distinguished from Vaquez s, not only by the remarkably high blood pressure, but also, as a rule, by enlargement of the left heart and by the absence of splenomegaly He considers that the high pressure is due partly, but by no means exclusively, to the viscosity of the blood He does not believe that the two forms can be sharply separated from one another, but thinks it very probable that there are transitional forms which connect them In the cases described in this paper different intermediate types are represented It is, of course, possible that the polycythæmia and florid colour of the skin in the second case may in time come to be associated with enlargement of the spleen In the third case there are the

changes in the blood vessels, heart, kidneys, retinæ and limbs which are associated with, and to a large extent the result of, the high pressure, in themselves remarkable phenomena but they are of interest in view of the Jewish descent of the patient, and the special tendency shown by that race to suffer from obliterative arteritis at an age too early for senile gangrene of the usual kind

It has been suggested that polycythæmia with or without splenomegaly, may arise, even though there is no disease of the heart or lungs, through a local obstruction to the circulation, such as is present in extreme passive congestion of the portal system The third case described might actually be cited as lending support to this hypothesis But in opposition to this theory, it is to be noted in the first place that the typical spleen met with in chronic passive congestion from heart disease is not a large one, in the second place that splenomegaly and polycythæmia may be present, as in the third case, without cyanosis, and in the third place, that the disturbance in the portal vessels may, like that in the vessels of the limbs, be a late phase, and not a primary factor, in the evolution of the disease Unless cyanosis is present the theory referred to is scarcely intelligible

Report of Necropsy in Case 3 and Commentary by Professor TEACHER

The post mortem examination in Case 3 was made on June 22nd 1912 The body was extremely emaciated and livid and there was

there was a globular thrombus of the size of a marble and the extreme apex of the heart to about *the size of a penny* was *found to be* in a state of recent infarction The coronary arteries showed extreme nodular thickening amounting to almost complete obstruction in the case of the main anterior branch There were large agonal thrombi in all the cavities of the heart

The *lungs* showed extreme venous congestion and a number of early infarctions caused by masses of red thrombus

The first

patches

were very

each abo

thoracic

intercostal arteries were absent In the abdominal aorta there was a very large atheromatous patch with great thickening of the tunica intima and a somewhat contracted appearance but white in colour being free from fatty degeneration or calcification The cœliac axis and superior mesenteric arteries appeared to have arisen by a common trunk in the normal position of the latter This was about the centre of the atheromatous patch, and the orifices of the renal arteries lay just within its lower margin The orifice of the mesenteric vessel was completely occluded while both the renal arteries were narrowed to an extreme degree The lower part of the aorta and the iliac and femoral arteries also showed atheromatous patches The aorta and arterial trunks appeared to be generally thicker and more rigid than normal

veins were abnormally large and prominent The stomach and intestines showed general pronounced venous congestion and the mesenteric veins were noticeably enlarged close to the attachment of the bowel

The *liver* was somewhat enlarged firm and chronically congested, being of fairly advanced nutmeg type There were a few fibrous

representing the thrombous

The *spleen* was considerab

estimated to weigh at most

channeled

of the

lasia of

firmed

The *brain* showed slight atrophy of the convolutions and œdema of the meninges The large vessels at the base were comparatively healthy in appearance

Further dissection confirmed the appearance of old thrombosis of the portal vessel back to its origin at the junction of the splenic with the superior mesenteric vein and of the latter into the mesentery Everywhere the vessel and its radicles were channeled and masses of new vessels had been developed round about them (The stellate appearance in section could be traced well out in the splenic and main mesenteric veins)

The arterial supply of the parts dependent upon the cœliac axis and superior mesenteric artery had been maintained, except in the case of the spleen, by means of a very large anastomosing connexion with the inferior mesenteric artery, assisted probably by smaller communications from the lower intercostals and two vessels of about the size of crow quills which arose a short distance above the *inferior mesenteric* artery and passed towards the ascending colon The main vessel concerned was the left colic branch of the inferior mesenteric which was of about the size of an ordinary superior mesenteric artery and ran a very tortuous course along the descending and transverse colon until it anastomosed with the superior mesenteric trunk through its middle colic branch. From the right side a vessel of about the size of a large crow quill ran along the ascending colon and joined this anastomosis. It was supplied probably by the two vessels mentioned above. Doubtless the obstruction at the orifice of the superior mesenteric artery had been of gradual development, at least up to a point, so that time had been allowed for the development of the anastomosing system, and thus all its branches and those of the cœliac axis had continued to receive a sufficient supply of blood with the exception of the splenic artery close to the spleen.

Whether this last was obstructed by embolism or, as is more probable, by thrombosis, it is impossible to say; but there is no evidence of embolism having occurred elsewhere, and the splenic artery was tortuous and sclerotic. It appears, therefore, more probable that the cause of the obstruction was a thrombosis occurring close to the spleen. In 1911 I reported, along with Dr. R. S. Taylor,[3] a case in which advanced disease of the splenic artery led to thrombosis and infarction of the greater part of the spleen. From this infarction, apparently, thrombosis had started in the splenic veins and spread until it involved the portal vein, and the patient died with acute symptoms of obscure character which were only explained post mortem. It is probable that something similar had occurred in the present case, though there is no record of any illness manifestly corresponding to such an occurrence.

In conclusion, it appears most probable that the patient was a chronic sufferer from splenomegaly of obscure nature and arteriosclerosis. The gradual occlusion of the superior mesenteric artery favoured the occurrence of thrombosis in the splenic artery, and the resulting infarction of the spleen led to portal thrombosis. The whole abdominal condition, then, might be described as a freak of arteriosclerosis producing a localised venous congestion, which in a number of other cases has been the only explanation which could be offered of polycythæmia.

A SERIES OF 236 CASES OF TOTAL ENUCLEATION OF THE PROSTATE PERFORMED DURING THE TWO YEARS 1911-12.

By P. J. FREYER, M.A., M.D., M.Ch. R.U.I.,

LIEUTENANT-COLONEL, I.M.S. (R.); CONSULTING SURGEON, QUEEN ALEXANDRA'S MILITARY HOSPITAL; SURGEON, ST. PETER'S HOSPITAL FOR STONE AND OTHER URINARY DISEASES.

In a paper published by me in The Lancet of April 8th, 1911, I reviewed the results of 800 cases of my operation of total enucleation of the prostate for radical cure of enlargement of that organ performed by me down to the end of 1910. During the two years that have since elapsed I have performed a further series of 236 cases of this operation. In the present paper I propose placing the results before the profession, giving in detail some cases mainly illustrative of the difficulties and complications met with in the operation, and winding up with a brief review of the 1036 instances of the operation completed by me at the end of 1912.

Case 803.—On Dec. 12th, 1910, I saw, in consultation with Dr. P. Enrigue Caballero, *attaché à la Légation du Pérou*, a Peruvian patient, aged [illegible] suffered from hæmaturia and again five [illegible] consulted a medical man, who said he was [illegible] the bladder. I introduced a catheter and [illegible] residual urine, which was mixed with blood [illegible] ed in quite easily. On examination per rectum I was surprised to find that the prostate was enormously enlarged, rounded, smooth, soft, and movable. The patient being very stout, bimanual examination gave no additional information.

On Jan. 9th, 1911, I enucleated the prostate entire, Dr. Caballero being present. More than one-third of the mass, which was pear-shaped, lay in the bladder. Though very massive, weighing 7½ oz., the enucleation was quite easily accomplished, the operation lasting only three minutes. Recovery was uneventful, some urine passing per urethram on Jan. 25th, and the suprapubic wound being dry on Feb. 3rd. On Feb. 16th the patient left the surgical home in good health, able to pass and retain his urine, which was normal, as well as he ever did. Dr. Caballero informs me that he hears from Lima that the patient is quite well and that "the operation was a great success."

The remarkable feature of this case is that, though the prostate had attained to an enormous size, the enlargement was not accompanied by any of the usual symptoms resulting from obstruction with the exception of hæmaturia. The ease and rapidity with which a large prostate of this size was removed from a very stout patient are noticeable.

Case 809.—On Jan. 27th, 1911, I saw, in consultation with Dr. Horace Duncan, a Church dignitary in his ninetieth year, who had suffered from the usual prostatic symptoms for 16 years, during the early years of which he had repeated attacks of retention of urine, relieved by the catheter. He had been entirely dependent on the catheter since 1905, and had had repeated attacks of cystitis and rigors with high fever. He also had had repeated attacks of orchitis. The bladder had been washed out daily for months; and he had had vaccine injections by an expert for three months, without any diminution in the symptoms. Dr. Duncan had for many years advised removal of the prostate, but the patient was dissuaded from this course by the surgeon consulted. When I saw the patient he was in such utter pain and misery that he begged for operation at any risk. I passed a catheter, which was introduced 16 inches before any urine flowed; six ounces of urine containing pus and blood came away. The prostate was of enormous size, filling the rectum and bladder, and felt bimanually to be of the size of an infant's head; it was quite soft and movable. The patient's general health was fair for his age, but the pulse was intermittent and irregular with high tension.

On Feb. 1st, Dr. Duncan assisting and Mr. Carter Braine being the anæsthetist, I enucleated the prostate entire into the bladder, but had then to break it in several pieces to deliver it through the suprapubic wound, which I had designedly made of limited extent. The weight of the prostate was 12¾ oz. The operation was well borne; in fact, the patient scarcely seemed to feel it. No un[illegible] intervened, the patient being bright and cheerful [illegible] bed and reading from the second day after the operation. S[illegible] was passed naturally on Feb. 22nd and 27th, and afterwards the whole of the urine was passed per urethram. On March 10th the patient left the surgical home in fair health, retaining and passing his urine as well as he ever did.

Case 858.—The patient, aged 68, was admitted to St. Peter's Hospital on June 11th, 1911, with an over-distended bladder from retention due to prostatic enlargement. Seven years previously he had had retention of urine, and the catheter had been employed for about a month; he went on fairly well without the catheter for six years after this. A year ago he had had hæmaturia for three or four days, and about monthly since then. Latterly the urine dribbled away from him, the overflow being due to over-distension of the bladder. He had had complete retention a week ago, and the catheter had been used daily since then. The pulse was rapid and intermittent, and he suffered from chronic emphysema and bronchitis. A small catheter was introduced and tied in, and the bladder was slowly drained. The urine was alkaline and contained much pus and albumin.

On June 14th I drained the [illegible] to relieve the backward pressure on the kidn[illegible] before enucleating the prostate. [illegible] improved, and a fortnight after [illegible] prostate, which weighed 3 oz. [illegible] occasions. A rapid recovery en[illegible] condition described, and the [illegible] normally on and after July 19th. On the 27th he died suddenly from heart failure. He had been walking about for several days, and was to have gone home the day after the fatal occurrence.

This case illustrates some of the conditions under which it is advisable to operate in two stages, draining the bladder in the first instance to relieve the backward pressure on the kidneys and so enable them to regain their functions, as also to cure the cystitis, before enucleating the prostate. Though the death of the patient was due to heart disease, and occurred when he was quite convalescent from the operation, it must for statistical purposes be accepted in connexion therewith, though apparently quite independent thereof.

Case 903.—On Nov. 14th, 1911, I saw, in consultation with Mr. J. J. Day, of Sandwich, a patient, aged 63, who had suffered from prostatic symptoms for five years and had been entirely dependent upon the catheter for a fortnight. There was much blood as well as some pus in the urine, and the catheter passed in some 13 or 14 inches before the urine flowed. The patient was extremely stout. On Nov. 16th I removed the prostate, weighing 3 oz., Mr. Day and Mr. Sydney B. Hulke being present. The operation was extremely difficult, chiefly owing to the stoutness of the patient, the abdominal fat being some 5 inches deep before the recti muscles were reached. The bladder wall was very thickened and its cavity contracted. These conditions necessitated extreme efforts to reach the distal aspects of the prostate by the enucleating finger in the bladder. The operation was well borne and the wound healed rapidly without any sloughing of the abdominal fat. On Dec. 8th some urine was passed per urethram, and the suprapubic wound was dry on and after the 18th. On Jan. 17th, 1912, the patient went home in excellent health, passing and retaining his urine normally. On March 5th, 1913, he wrote: "I am keeping wonderfully well, and have not had the slightest urinary trouble since I left No. 11" [the surgical home].

This case is recorded to illustrate the fact that enucleation of the prostate is feasible, though difficult, in extremely obese patients.

Case 921.—This patient, aged 79, was admitted to St. Peter's Hospital on Jan. 9th, 1912, suffering from prostatic symptoms which had commenced some 26 years ago. He was in great distress, having to pass the catheter every hour almost by day and night. He was unable to pass any urine naturally, the catheter having been employed for 23 years. The introduction of the instrument was frequently attended by hæmorrhage, and the urine contained much pus and mucus; specific gravity, 1018.

On Jan. 18th I enucleated the prostate, which weighed 3½ oz., and presented a large median outgrowth in the bladder. A small phosphatic stone was removed from the bladder at the same time. On Feb. 12th the patient was discharged, able to retain and pass his urine naturally without the aid of a catheter as well as he ever did. On March 10th, 1913, he wrote to me: "I am glad to say I am a new man since you did the operation on me, before which I was using the catheter for

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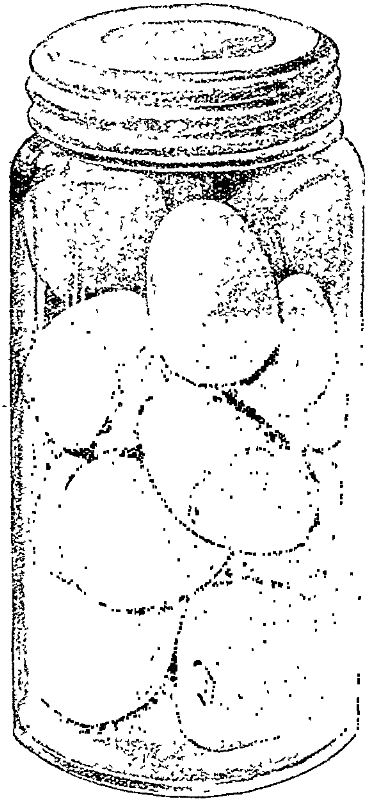
[3] Aneurysm of the Splenic Artery, Glasgow Medical Journal, April, 1911.

[illegible] unable to follow [illegible] up ladders, &c., [illegible] This patient [illegible] to see him, in his [illegible] man of 55. His [illegible]

The complete recovery of the bladder functions in this case after 23 years of "catheter life" is remarkable. I have previously recorded[1] a case in which on Nov. 17th, 1902, I removed the prostate weighing 6¾ oz. from a patient aged 66, who had been for 24 years entirely dependent upon the catheter. I am glad to say this patient was recently—ten years after the operation—in fairly good health and able to retain and pass his urine naturally.

FIG. 1.



Jar containing 15 calculi, weighing ½ lb., removed from the bladder in Case 992. Actual size.

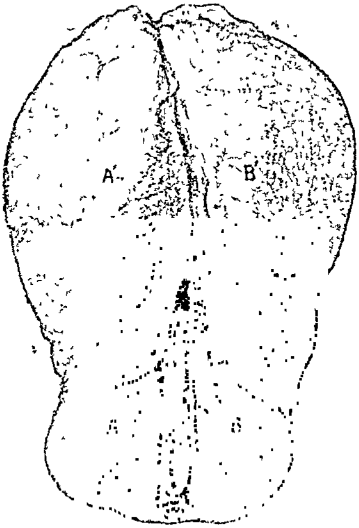
[illegible] off 32 ounces of [illegible] ity 1005, and con- [illegible] enlarged, dilated, [illegible] toms I decided to drain the bladder suprapubically before removing the prostate, so as to relieve the backward pressure on the kidneys and thus enable them to regain their functions.

Assisted by Dr. Tibbetts, I performed suprapubic cystotomy on April 30th, and found that the prostate presented a tongue-shaped [illegible] evious uræmic symptoms continued [illegible] hiccough supervened; but all these [illegible] that on May 14th, assisted by Dr. [illegible] the operation. The prostate, which [illegible] my urinary flow is perfect and my appetite splendid."

This is a typical example of one of the few conditions under which it is advisable to divide the operation into two stages, so that the uræmic symptoms may pass off and the kidneys regain their full excreting powers before removing the prostate. Had the gland been removed without preliminary drainage in this case, the shock to the maimed kidneys would probably have induced total suppression of the urine.

CASE 992.—A patient, aged 72, consulted me on July 22nd, 1912, on the advice of Dr. T. H. Machie, of Bognor. He had suffered from urinary symptoms for 20 years, during which he had from time to time

FIG. 2.



P[illegible]

passed small urate calculi, sometimes as large as a pea. For years he had had occasional stoppage of urine, hæmaturia, and pains in the loins, attributed to "neuritis." Four years ago he was sounded by a [illegible] no urine, only blood, was drawn [illegible] sleep, he was very stout, and he [illegible] lungs. I introduced a bi coude [illegible]

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[1] Surgical Diseases of the Urinary Organs, Baillière, Tindall and Cox, Case 24, p. 126.

THE RECORDS OF FOUR UNUSUAL RECOVERIES IN CASES OF MENTAL DISEASE.

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THE records of the four following cases are of interest in so far that they demonstrate that even apparently hopeless cases of nervous and mental disease can never be safely pronounced incurable.

CASE 1.—The patient, a male, aged 30, labours under a mild type of imbecility, and was up to eight years ago a confirmed epileptic. His history states that his epileptic seizures commenced during infancy. When he first came under my care in 1899, and up to 1904, his epileptic seizures were very frequent, averaging between 200 and 300 each month. The fits were both diurnal and nocturnal. During 1904 certain serum observations were made in order to test a statement made by Ceni to the effect that the serum of epileptic patients when taken from the body develops certain antibodies which when injected subcutaneously into the patient yielding the serum, or into other epileptic patients, have a curative power. The patient being the most consistent sufferer from epilepsy under my care at the time was asked to give serum for the purposes of the observation. This he readily agreed to do. During a period of six weeks blood to the amount of 40 c.c. was drawn from the median basilic vein once a week, so that during the six weeks he yielded 240 c.c. of blood. The curious fact is this, that from the day of the first bleeding up to the time of writing—that is to say, during a period of eight years—the patient has never again suffered from a single epileptic seizure. I have often speculated whether his recovery from epilepsy was a coincidence or the result of the venesection. Similar venesection in other cases of epilepsy certainly did *not* improve the epileptic condition. It is to be noted that the patient never received an injection of his own or any other patient's serum.

CASE 2.—The patient is a woman who when she first came under my care was 57 years of age. She suffered from recurrent attacks of *folie circulaire* mania with barely recognisable periods of depression. Each of the attacks of excitement lasted about six weeks, with varying intervals of sanity. The history of her illness is as follows. Her first attack of excitement recorded occurred when she was 27 years of age. The first record of her admission to an asylum was in June, 1892, and she was discharged in September of the same year. She was readmitted in February, 1897, and redischarged in April of the same year. She was again admitted in August, 1900, and discharged in January, 1901. Her last admission, when she came under my care, was in October, 1901. During 1902, 1903, 1904, and 1905 she suffered from frequent attacks of mania, the onset of each attack being preceded and accompanied by an attack of nasal catarrh. She presented no other physical symptoms beyond a recurring hyperleucocytosis of from 12,000 to 20,000 per cubic millimetre which accompanied the attacks, and the presence of a specific agglutinin in her serum to a variety of streptococcus isolated by myself from the blood of a case of acute mania. Her opsonic index to the same organism varied between 0·4 at the commencement of an attack to 2 at the termination of an attack. Various attempts were made by means of injections of this streptococcus to produce immunity, but without effect, and no antibacterial substance could be demonstrated in her serum as the result of these injections.

In October, 1905, it was decided to try the effect of feeding the patient on living cultures of the streptococcus which her serum agglutinated. The organism was grown in sterilised broth for 48 hours at 37° C. and then dispensed in 10-ounce bottles, of which she took 1 oz. thrice daily between meals, and this course was continued for six weeks. During this period her appetite increased very markedly, and her weight went up from 10 st. 1 lb. to 11 st. At the end of the six weeks' course of treatment her serum was tested for immune body and was found to contain a specific bacteriolytic substance, which was demonstrated as follows. One part of a 24 hours' broth culture of the streptococcus was mixed with two parts of her serum; the mixture was drawn into a sterile pipette, which was sealed and placed in the incubator at 37° C. for three hours. A control of the serum of a healthy person was made at the same time. At the expiration of the three hours the contents of each pipette were spread on agar tubes and incubated. At the end of 24 hours' incubation it was found that in the tube inoculated from the patient's mixture of serum and broth culture there were only three colonies of organisms visible, while that inoculated with the pipette made from the control serum showed countless colonies. To prevent error the observation was repeated with a second control with the same result. From the date of treatment in October, 1905, to the date of discharge, December, 1907, the patient never suffered from another attack of mania, and up to the time of writing she has not had a relapse.

I naturally thought that I had hit upon a discovery in treatment, but this proved incorrect, as out of six other and similar cases so treated I obtained no satisfactory results, nor was bacteriolytic substance ever demonstrated in the sera of these patients. If this recovery was not the result of the feeding with streptococci, but a coincidence, then we must accept the presence of antibody in the serum as an indication of the method nature takes to arrest such conditions of disease. If, on the other hand, we accept the recovery as the result of feeding with bacteria, it is curious that other and apparently similar cases did not benefit by the same treatment.

CASE 3.—The patient is a woman aged 32. She developed melancholic symptoms, with fixed delusions and marked impairment of nutrition at the age of 30. She was treated for two years, partly at home and partly in an asylum, without apparent benefit, and was admitted to Murthly in October, 1908. Her nutrition was miserable; she was depressed, took no interest in her surroundings or personal appearance, and expressed fixed delusions. She presented no physical disorder beyond the condition of malnutrition, a dry harsh skin, want of appetite, constipation, and an irregular hyperleucocytosis of from 12,000 to 17,000 per c.mm., the increase being chiefly in the polymorphonuclear cells. All sorts of remedies were applied in her case; she was treated with thyroid, hot baths, injections of cinnamate of soda and various vaccines with practically no effect; the prognosis given in her case was most unfavourable. At the end of March, 1910—i.e., four years after the onset of her illness—she contracted scarlet fever. The fever was of a mild type with little constitutional disturbance, the highest temperature recorded being 101° F. As she convalesced from the fever a marked physical and mental improvement was noticeable, and by the end of April she had recovered. She was discharged at the end of May, 1910, and has shown no signs of relapse up to the time of writing.

I have seen an attack of scarlet fever in recent and hopeful cases of mental disease hasten recovery, but this is the only case I have seen of scarlet fever occurring in what was, to all intents, a chronic case of insanity.

CASE 4.—The last case is possibly the most interesting of the four. It is that of a woman, aged 27, who became insane in May, 1904, and was removed to a large city asylum. What the nature of the early attack was I do not know, but when she was transferred to Murthly, in November, 1904, she was a morose, impulsive, absolutely intractable woman. She suffered from delusions of identity, she had her own names for members of the staff and for some of her fellow patients, and she referred to these persons as to individuals whom she had known all her life. She fell into the routine of the house, in so far that she went to the dining-hall for meals, to church and social functions, but she could not be employed in any way. At frequent intervals she was impulsive, suddenly attacking fellow patients or members of the staff, and these attacks were, so far as one could judge by her disjointed speech during these outbursts, directly the result of the delusions of identity she laboured under regarding the persons she assaulted. No observations could be made with regard to her physical state on account of her impulsiveness, and no attempts at treatment met with success for the same reason.

No change was noted in her condition until May 5th, 1908, when she was reported as having been found in an unconscious state in her bed in the morning. Upon examination she presented all the symptoms of a cerebral hæmorrhage, being completely paralysed on the right side. When she recovered consciousness it was also noted that she was aphasic Following upon the seizure she developed a high *temperature, which ran as high as 104° F* , and this pyrexia, which was remittent in character, lasted for three weeks At the end of the three weeks the paralysis was passing off and the power of speech was returning Five weeks after the date of onset of the seizure she spoke to me quite clearly and collectedly. She asked where she was, how long she had been at Murthly, and how she came to Murthly Further *inquiries* elicited the fact that her mind was a perfect blank for a period of four years—that is to say, from the date of the onset of the attack in May, 1904, to the convalescence *from* her cerebral hæmorrhage in June, *1908* She *knew no one ; the medical* men, the nurses, and her fellow patients were to her complete strangers When she was able to get up and go about the ward she recognised nothing ; she had to be shown her way to the dining room, the chapel, and recreation hall, and she had no recollection of her violent and impulsive behaviour, and yet from her admission in November, 1904, she was apparently conscious, in so far that she knew what was said to her and obeyed orders Although she called the nursing staff by names of her own she never confused these names and she certainly knew her way to the dining hall, the recreation hall, and her own bed in the dormitory She made an excellent recovery, was discharged in July, 1908, and went into service Up to the present date she has not been readmitted into this asylum

Her mental states suggested a condition of dual personality, and to me it is quite inexplicable that an *apparently hopeless* case of insanity should suddenly recover as the result of a cerebral hæmorrhage followed by three weeks of almost hyperpyrexia

Murthly

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND *THERAPEUTICAL.*

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NOTE ON A CASE OF OBSTINATE SCIATICA TREATED BY PHENAZONUM INJECTIONS

By LEWIS W REYNOLDS, M R C S ENG ,

SURGEON TO THE HIGH WYCOMBE COTTAGE HOSPITAL

THE *treatment of obstinate sciatica is attended* with so many difficulties that the success by Fubache's method may be *of interest*

The patient, aged 66, a man of robust constitution, weighing 15 st , came under my care on August 30th, 1912 He had had a sharp attack of sciatica in 1886 and was quickly cured by the baths of Hammam R'Irha, Algiers, again in 1905 he was apparently cured of another attack by visiting the same baths An attack in September, 1911, was greatly relieved by three weeks of Harrogate treatment—baths, massage, electricity, &c In June, 1912, after a sharp attack of lumbago a more severe trouble arose from a return of the sciatica Three weeks in Droitwich, baths, massage, and Aix douche, made the patient's condition steadily worse He returned home and took to his bed on Sept 3rd The
ctric light bath was tried, as well
of the sciatic nerve, *salicylates,*
other remedies but he continued
to experience the most acute pain on the slightest movement He could only lie on his left side, the sciatica affecting his right leg from thigh to foot On Sept 21st I commenced the deep hypodermic injections of the following phenazonum ʒ iiss , cocain hydrochlor , gr iiss , aq destill steril , ʒ iiss , 1 c cm (♏ xv) of the preparation being injected into the upper part of the thigh over the nerve These injections were repeated at different places along the course of the nerve on Sept 23rd, 25th, and 27th and on Oct 3rd, 7th, 9th, 13th, and 17th The injections caused no pain at the time, but invariably about six hours afterwards a great deal of pain was experienced, which lasted some hours and sometimes necessitated an injection of morphine There was no great relief from the treatment until Oct 12th, but the nearer the injection got to the nerve the greater the *relief seemed* to be For instance, the injection over the external popliteal behind the head of the fibula gave great relief, and another injection on Oct 13th on the dorsum *of the foot completely* removed the pain after four hours, and it has not returned After Oct 12th the patient rapidly improved , the pains ceased and movement became easy About this time some anxiety was felt because of some slight cardiac trouble, causing a slow and intermittent pulse, but a mixture of strychnine and digitalis put this right again Since
Oct 28th his habits, and
he only n his right leg
The pow

High Wycombe

NOTE ON THE USE OF TUBERCULIN

By BERTRAM COHEN, M B , B S LOND ,

LATE HOUSE SURGEON, HOUSE PHYSICIAN AND ASSISTANT CURATOR, ST GEORGE'S HOSPITAL.

WHILE so much literature is appearing advocating on the one hand and criticising on the other the use of tuberculin in the treatment of pulmonary tuberculosis, the following case *may be of interest*

The patient, a man aged 21, was seen by Dr W F Colclough and myself for the first time on Jan 11th, 1913, complaining of abdominal pain over the region of the appendix The whole of the right side of the abdomen was *rigid and painful*, but there was diminished *resonance* and air entry into the base of the right lung On Jan 14th there was definite evidence of fluid in the right chest , the abdominal symptoms had disappeared, having been due to inflammation of the diaphragmatic pleura On the 17th the right chest was aspirated , 16 oz of clear fluid were drawn off, a good deal more being left to absorb The case was clearly one of tuberculous pleural effusion The temperature did not fall, varying in the evening between 100° and 101°, and the fluid showed no signs of absorbing On the 23rd the patient *was given 1/10000* T R *During* the next two days the temperature for the first time fell below 99° F On the 25th the evening temperature was 99 4° On the 26th 1/10000 T R was repeated The next day the temperature remained normal, but only to rise to 99 8° the day after This was because 1/10000 was too small , 1/8000 ought to have been given On the 29th he was given 1/7500 , the temperature at once dropped to 98°, where it remained until his discharge, not fluctuating more than 0 2 of a degree

The patient left hospital on Feb *10th* well and *markedly* improved in general health There is every reason to believe that if he takes tuberculin for the next six months he will not develop phthisis, in spite of the fact *that he has had* a tubercular lesion

I have found that the administration of tuberculin T R is of the utmost value in the treatment of pulmonary tuberculosis, and cannot too strongly emphasise the teachings of Dr Arthur Latham that the two cardinal rules are (1) start with a small dose , and (2) carefully watch the temperature, the amount of expectoration and clinical *symptoms*, and judge the time for giving and spacing of doses accordingly

Sidmouth

THE CHADWICK PUBLIC LECTURES —Three evening lectures, the Evolution
of Epidemics, e house of the
Royal Society W The first
lecture, entitled "Middle Ages—Evolutionary *Factors* in Evidence," was delivered last Monday by Dr H T Hewlett, in the unavoidable absence of Dr J F C Nash, medical officer of health for the county of Norfolk The second, entitled "Nineteenth Century—Specificity and
Evolution," and the third, entit
Evidences of Evolution," wil
April 14th and 21st, at 8 15
free, and further informatio
lectures may be obtained from the secretary, Mrs Aubrey Richardson, at the offices of the Trust 8, Dartmouth street, Westminster

Medical Societies.

LIVERPOOL MEDICAL INSTITUTION.

Graves's Disease.—Appendicitis in Children.—Meningitis Serosa.

A MEETING of this society was held on March 27th, Mr. ROBERT JONES, the President, being in the chair.

Mr. COLIN CAMPBELL read a note on Four Cases of Graves's Disease treated by Fresh Thyroidectomised Goats' Milk. Reference was made to the mortality from disease of the thyroid (cancer excluded) in the Registrar-General's Reports. In 1900 the deaths numbered 227; in 1910 they had increased to 551. Neither Graves's disease nor exophthalmic goitre was mentioned in the reports, but Mr. Campbell had been officially informed that the number of deaths attributed to it was: in 1910, 390; and in 1911, 411. Obviously the disease was increasing and did not "tend to get well." Non-recovery was the rule, whilst deaths were more frequent than cures. His experience of the various sera had been unfortunate. The cases treated with fresh milk had improved comparatively quickly. One, he might say, was cured. It was possible that much of the benefit from the use of the goats' milk might be due to its nutritive qualities rather than to its antithyroid action.—Mr. C. THURSTAN HOLLAND had treated 50 cases of Graves's disease by X rays with satisfactory results, and thought that method much more reliable than any other.—Dr. W. B. WARRINGTON thought that Mr. Holland had made out a case for X ray treatment, but said that all remedies that had been tried and vaunted were ultimately found unsatisfactory.—Mr. KEITH W. MONSARRAT had seen surgical treatment very successful in properly selected cases. —Mr. E. T. DAVIES and Dr. J. R. LOGAN also spoke.

Mr. G. C. E. SIMPSON read a paper on Appendicitis in Children. In the records of the Liverpool Infirmary for Children there was no case of appendicitis, perityphlitis, or pericolitis recorded from 1876 to 1891, and from 1884 to 1891 only two cases of abdominal abscess led to a fatal result among an annual average of 15,000 patients. In 1892 a case of iliac abscess was recorded, and from that time there had been a steady increase in the frequency of these cases; in the last five years there had been an average of 24 cases per annum, the figure rising to 34 in 1910-11. The average death-rate was high, being 23 in 160 cases, or nearly 15 per cent. Mr. Simpson had himself treated 34 cases and urged that the disease was increasing in frequency and in severity, so that no opportunity should be lost of impressing on the public the importance of abdominal pain in a child. He urged on the medical attendant the advisability of early operation, as in children there was even less tendency to localisation of the disease to the appendix than in adults.—Mr. A. STOOKES said that while he had been resident at the Infirmary for Children in 1884 a case of abscess of the brain and liver had been recorded which was secondary to a pain in the vermiform appendix. He was much struck by the frequency of the disease now as compared with its great rarity 30 years ago. He thought these cases were not missed by the practitioner of those days. In Dr. West's book on "Diseases of Children," published in 1859, the author recorded four cases, and the description of the disease showed that he recognised its existence and its rarity. It was important that further work should be done to arrive at the cause of this increase in so fatal a disease.—Mr. R. W. MURRAY said he had read a paper 15 years ago in which he had advocated treating these cases by hot fomentations and temporising measures until the abscess pointed, and then opening and draining. He could not now value such a recommendation; the poison had increased in virulence, possibly due to food adulteration. He would emphasise the importance of abdominal pain in children.—Mr. F. T. PAUL said that in his early days he remembered only three cases of appendix disease in five years, during which every fatal case at the Liverpool Royal Infirmary was examined after death. He believed that there was always a foreign body in the appendix at the first attack, either a concretion or other body. It was essential to get the case early, but where the case was not seen at the very onset it was necessary to use judgment as to operation. In some cases he thought it wise to wait for an interval operation; no hard-and-fast rule could be laid down.—Dr. C. J. MACALISTER thought investigation was needed as to the cause of intestinal diseases, especially into food habits. He had been struck by the way in which some individuals seem to require an animal and others a vegetable dietary. Appendicitis was closely related to the other intestinal disorders, such as colitis, and he thought the condition of the teeth had much influence in these diseases.—Mr. ARTHUR J. EVANS drew attention to the fact that a right-sided basal pneumonia might be mistaken for appendicitis.—Mr. DAMER HARRISSON also spoke, and Mr. SIMPSON replied.

Dr. WARRINGTON read a paper on Meningitis Serosa, which he said was chiefly associated with otitis, but was also associated with other infective diseases, as tuberculosis. The term implied a condition in which there was a pathological collection of clear sterile fluid in the intracranial cavity. He related a number of cases associated with otitis media, and alluded to the earlier as well as to the later views on the pathology of the condition. The diagnosis from abscess of the brain was of much practical importance. The chief guiding marks appeared to be (1) the sudden and acute onset of symptoms with an otitis; (2) the fluctuating course of the symptoms; (3) the absence of constitutional signs often associated with brain abscess; and (4) a study of the localising signs which differ from those sometimes met with in abscess. He then described cases illustrating the occurrence of this condition in general infections and particularly in tuberculosis, where grave cerebral symptoms might appear and yet terminate favourably. He drew attention to the fact that serous exudates into the intracranial cavity might occur in association with distant sites of suppuration—e.g., after appendicitis and puerperal infection. Lastly, he mentioned instances following a blow on the head, or a mental shock, and described the clinical history of a case of "serous apoplexy" in a young man, occurring as the result of starvation and exhaustion and terminating in complete recovery.—The following took part in a discussion on the paper: Mr. A. ADAIR DIGHTON, Dr. T. R. GLYNN, Mr. H. E. JONES, Dr. J. OWEN, Professor E. E. GLYNN, Mr. DAMER HARRISSON, Dr. N. P. MARSH, and Dr. R. J. M. BUCHANAN.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

Some Recent Conceptions of Hysteria.—The Toxæmias of Pregnancy.

A MEETING of this society was held on April 3rd, Dr. STANLEY RISELEY, the President, being in the chair.

Dr. A. G. YATES, in a paper on Some Recent Conceptions of Hysteria, discussed, firstly, the etiology of functional nervous disorders. This was obscure, because as yet no pathological changes had been found to account for them. This failure had in recent years led to an elaborate attempt to define the neuroses and explain their causes in terms of psychology. Symptoms were explained, not on the basis of physical changes in the tissues, but on that of abnormal mental functions. In referring especially to the work of Janet and Freud Dr. Yates said: Both assume the existence of subconscious mental processes. Janet argues that in the hysterical mind that portion of it which is concerned with conscious mental activity is quantitively diminished. It is not able to contain at one and the same time as many thoughts, feelings, or emotions as the normal mind. The expression "field of consciousness," is a convenient one to include the whole mass of ideas, sense impressions, &c., of which a person is at any one moment conscious. It might be represented diagramatically by two circles, one within the other. The inner circle would represent the particular idea, object, or feeling towards which the mind was at that moment directing its attention. In the outer circle, we might place all the other mental processes of which the mind was at the same moment conscious, but less distinctly. This is the peripheral portion of the field. We might extend our diagram still further by adding a third circle outside, to represent the subconscious portion of the mind. By such diagrams we could compare the normal with the hysterical mind, simply by making the circles representing the conscious field larger in the former than in the latter. In other words, a number of mental processes which in the normal mind are retained within the conscious portion are, in the hysterical individual, transferred to the subconscious area. Present sense impressions are often unable to gain admission into the diminished conscious area, with the result that anæsthesia is produced. In the hysterical fit the area of personal consciousness is not merely diminished, but for the time being obliterated, and the mind is dominated by some idea, impression, or event of the past. This mechanism is sometimes quite apparent, but not always. It seems probable, nevertheless, that this apparently meaningless paroxysm is the result of some idea or memory of the past, fixed within the subconscious sphere in a mind in which that sphere is abnormally active and large, but possessed of a diminished facility or outlet into the neighbouring sphere of consciousness. Such a fixed idea from time to time bursts its barriers, flows out with irresistible force, flooding the already diminished field of consciousness, takes complete command of the individual, and spends itself in a display of long pent-up emotion. All the other phenomena of hysteria which occur during the inter-paroxysmal period are likewise explained on the assumption of some fixed subconscious idea finding an outlet by these varied manifestations. Freud looks upon the condition as the result of some mental shock. The corresponding painful emotions, instead of gaining a suitable outlet, are repressed or driven down into the subconscious area of the mind, so that they are no longer felt. They are still active, however, and some outlet must be provided. This is effected by the conversion of these submerged emotions into the physical and mental phenomena which we know as the symptoms of the disease. By a method of treatment known as "psycho-analysis" Freud has been able to trace the connexion between some original painful emotion and such hysterical phenomena. It is a long and tedious process, but Freud believes that by analysing the enormous mass of ideas and chains of thought which he obtains he can discover the hidden cause of the symptoms, and claims that its revelation to the patient will effect a cure. These two theories resemble one another in assuming that the causative factor is some mental impression buried in the subconscious mind. Two cases were shown illustrating the rhythmical tremor of hysteria. In one case the left forearm had been partially paralysed from birth. It had, however, given no trouble until six months ago, when it became painful. Subsequently the tremor developed in it, and within the last few days it had also affected the other arm.

Mr. W. W. KING, in a paper on the Toxæmias of Pregnancy, said that these toxæmias often manifested themselves as disturbances of metabolism which could be recognised by urinary examination. The nature of the toxin was unknown, but it was probably composed of a number of different elements, as suggested by Leith Murray. Recent work also indicated that the internal secretions from the ductless glands were an important factor in toxæmic pregnancy. The early vomiting of pregnancy was not "physiological," and all but the mildest cases required treatment. The symptoms of pre-eclamptic toxæmia should be explained to all primiparæ. Glucose in the urine in pregnancy might be due (1) to diabetes; (2) to hypersecretion from the pituitary gland; (3) to inability of the liver to store up glycogen. The last type was of toxic origin and was often associated with headache, neuritis, or muscular twitchings. The glucose disappeared when the patient was placed upon a meat-free diet. A case of toxic post-partum jaundice with very severe vomiting, which followed slight toxæmic symptoms, was related as showing that even mild symptoms might develop into grave disease. Both infant mortality and morbidity were much increased in all forms of toxæmic pregnancy.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on April 4th, Mr. Henry Curtis, the President, being in the chair.—Dr. A. E. Stansfeld read a paper on Vaccine Therapy in General Practice. Proceeding from the assumption that vaccine therapy has already amply justified its existence, Dr. Stansfeld pointed out the ways in which the "boom" in vaccines has served to discredit their use in the production of immunity. They have been used in unsuitable cases; improper doses have been employed or the intervals of administration have been at fault; slovenly bacteriological methods have sometimes been responsible for failure, and in other cases older methods, to which vaccination should be merely an adjuvant, have been unfairly abandoned. After dealing briefly with the varieties of immunity and the nature of vaccines and immune sera, Dr. Stansfeld proceeded to consider (1) the general rules which determine the suitability of a case; (2) the methods of immediate procedure, culture, &c.; (3) the administration of the vaccine. Vaccine may be used for prophylaxis or for treatment, and in the former category such recurring diseases as nasal catarrh and boils will be of special importance in general practice. As regards suitability of cases for treatment, it must be remembered that although practically all kinds of infections are amenable, not all cases are suitable. Speaking generally, it might be said that the more localised and the more chronic the infection the more the benefit likely to be obtained from vaccine therapy. But there are exceptions to this statement, such as the B. coli infections of the urinary tract. Various common types of lesions were then considered with the amenability of each, illustrated by recital of cases. The importance of identifying the causal organism, the possibility of multiple infective foci, and the frequency of mixed infections were discussed. It was pointed out that special tests—e.g., the agglutination test—may be necessary to demonstrate the relationship of the bacterium isolated to the disease, and speculative use of vaccines was condemned. The methods of collecting material for cultures were dealt with and then the relative influence of vaccines prepared from the common and specific organisms. After considering the value of stock vaccines, Dr. Stansfeld described the use and special advantages of sensitised vaccines—viz., the complete absence of unfavourable reaction and of negative phase, and the superiority of the sensitised vaccine to the uncombined vaccine and corresponding serum used independently. The importance of adopting other methods of treatment, particularly local drainage and disinfection, was insisted upon. The initial dose of vaccine depends upon the acuteness or chronicity of the infection, the degree of localisation, the nature of the infecting organism, and the general condition of the patient. No exact rules are possible, because patients and organisms vary; the chief guide must be experience, and when in doubt it is well to err on the side of giving too small a dose rather than too large. Frequency of administration and the intervals to be allowed between successive doses again depend upon experience and upon the result of the first dose. In the case of sensitised vaccines, the absence of negative phase permits the use of large doses at frequent intervals, and ascending doses on three consecutive days are usually employed.—Dr. Leslie Durno emphasised the importance of local attention to the teeth in cases of pyorrhœa alveolaris; in his experience this, including removal of carious teeth, sufficed to cure most cases in a very short time. He thought extraction should be cautiously employed if alveolar abscess existed.—Dr. David Ross instanced a case in which extraction had been followed by a very severe reaction under these circumstances, and the President emphasised the inadvisability of extracting a tooth when an alveolar abscess is pointing through the jaw.—Dr. T. S. Maynard considered the treatment of chronic cases of B. coli cystitis.—Dr. J. R. T. Conner referred to treatment by production of "fixation abscess."

LONDON DERMATOLOGICAL SOCIETY.—A meeting of this society was held at 59, Leicester-square, on March 18th, Dr. Morgan Dockrell being in the chair.—Mr. E. H. Ross read a paper on the Intracellular Parasites in Syphilis and in Allied Conditions in Animals, in which he said that he had found intracellular protozoal blood parasites in a large percentage of guinea-pigs examined; another species of the same genus of protozoal parasite had been found in earthworms. He had also described similar intracellular parasites in every untreated case of syphilis in the human subject he had examined, and some of these had been observed to develop into spirochætæ. They had been found in the chancres, buboes, *condylomata*, secondary sores, skin rashes, and in the peripheral blood during the acute stages of the disease. Mr. Ross also mentioned that rabbits and hares suffer from a disease indistinguishable from syphilis.—The President spoke of the results of his observations on patients after giving salvarsan—viz., that they obtained a complete freedom from the parasites for a time, but they returned before long and that it was necessary to continue with mercury.—Dr. W. Griffith considered that from a practical point of treatment it might be well to examine the blood of patients for these amœboid bodies, and only give salvarsan when they and the spirochætæ were found free in the blood.—Dr. W. Knowsley Sibley said the paper confirmed the views he had always maintained. The fact that the same organism was found in earthworms suggested to his mind that the origin of the syphilitic virus was mother earth.—The following cases were shown: The President showed a woman, 35 years of age, who had had a peculiar lesion on the bridge of her nose for some two years which he was inclined to consider was a rhinoscleroma.—Dr. Sibley exhibited a case of Lupus in the Inner Canthus of the Right Eye in a man of 28 years, who had had it for four years. He had treated it with one application of carbon dioxide snow for two minutes and had obtained a very good result.—Dr. J. L. Bunch showed a case of a girl, 17 years of age, with an obvious Dermatitis Artefacta lesion on the leg.—Dr. Griffith exhibited a case of Mycosis Fungoides in an old man, and the case of Crocodile Skin he had shown on a previous occasion, and one of Circumscribed Prurigo.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on April 2nd.—Dr. H. B. Fantham, of the Liverpool School of Tropical Medicine, read a paper on Some Recent Researches on Sleeping Sickness, Spirochætosis, and Amœbic Dysentery. He dealt first with human trypanosomiasis, especially with the recent work on the Rhodesian parasite (Trypanosoma rhodesiense, Stephens and Fantham), and the characteristics of the disease as seen in cases from Rhodesia and Nyasaland. The discoveries of Kinghorn and Yorke in determining the vector (Glossina morsitans) and the reservoir in big game were discussed, together with the significance of the developmental period of the trypanosome in the fly. The habits and breeding places of Glossina morsitans in contrast with the more restricted ones of Glossina palpalis were noted, and the recent methods of drug treatment were mentioned. The occurrence of a human trypanosomiasis in Brazil was referred to. This section of the address was fully illustrated by lantern slides, specimens showing the life cycles of glossinæ and microscopic preparations. Regarding spirochætosis, the life cycle of S. duttoni and its stages in the tick Ornithodorus moubata were briefly dealt with and illustrated by specimens and slides. Mention was made of the recent work on spirochæta recurrentis in lice (pediculus vestimenti) by the French investigators in Tunis. In connexion with amœbic dysentery the importance of the study of Entamœba tetragena was emphasised, and this organism was briefly compared and contrasted with E. coli and E. histolytica. Lantern slides illustrating these amœbæ were shown together with a smear containing E. tetragena.

THE MILK SUPPLY.—A special meeting of the council of the Charity Organisation Society will be held at Denison House, Vauxhall Bridge-road, on Monday, April 14th, at 4.30 P.M., when Mr H. Dixon Scott, honorary treasurer of the Pure Food and Health Society of Great Britain, and Mr. Wilfred Buckley will speak on "The Best Means of Increasing the Supply of Pure Milk"; and Dr. Reginald Dudfield, medical officer of health to the metropolitan borough of Paddington, will speak on "The Supply of Suitable Milk for Infants."

DONATIONS AND BEQUESTS.—By will the late H. G. Anderson has bequeathed £1000 to the Arbroath Infirmary and £500 to the Convalescent Home connected with it. The testator also left £500 to the British Hospital at Montevideo.—The late Mrs. Elizabeth Akrill, of West Bromwich, has left £10,000 for the erection and endowment of a convalescent home for women and children, or a home for crippled children, or for both purposes.—Subject to some life interests the late Mr. H. Goddard, of Brixton Hill, has left about £18,000 to the Brixton, Streatham Hill, Tulse Hill, and Herne Hill Dispensary.

Reviews and Notices of Books.

The Principles and Practice of Medicine, designed for the Use of Practitioners and Students of Medicine. By Sir WILLIAM OSLER, Bart., M.D. Oxon., F.R.C.P. Lond., F.R.S., Regius Professor of Medicine, Oxford University, &c. Eighth edition, largely rewritten and thoroughly revised, with the assistance of THOMAS MCCRAE, M.D., F.R.C.P. Lond., Professor of Medicine, Jefferson Medical College, Philadelphia, &c. London and New York: D. Appleton and Co. 1912. Pp. 1225. Price 21s. net.

AMONG the many causes of the sustained and deserved popularity of Professor Sir William Osler's well-known text-book of "The Principles and Practice of Medicine," the most important are the regularity and efficiency with which it is revised and brought up to date, so as to afford a carefully weighed and digested account of much new work of recognised importance. We are told in the preface that it is 20 years since the appearance of the first edition, and that comparing the first with the present very little remains of the original work. It still retains, however, the clear arrangement, the broad outlook, and the lucid, incisive style of its distinguished author, which have made it one of the most widely read text-books for nearly a generation. Dr. Thomas McCrae has revised the sections on treatment and on diseases of the organs of locomotion in the present edition, and has also seen the work through the press. Dr. A. G. Gibson, of Oxford, has helped in the rewriting of the section on the heart and arteries, while Dr. H. M. Thomas and Dr. Harvey Cushing have assisted in the revision of the section on nervous diseases.

The chief changes made in this edition are that the infectious diseases are grouped in a different order, and those of which the specific germs are doubtful or undiscovered are considered separately at the end of the section. The chapter on enteric fever has been brought up to date, and is one of the most informing and practical accounts of this disease with which we are acquainted. A new chapter has been added dealing with the colon bacillus infections, which are considered after enteric fever. These are divided into general hæmic infections, subinfections, and local infections. Unfortunately, little or no attention is given to the treatment of these conditions. In connexion with typhus fever, mention is made of the work of Nicolle, Anderson, and Goldberger who have been able to transmit the disease to monkeys. The pneumonias and pneumococcic infections are grouped together, and are considered in a very clear and authoritative manner. The description given of tuberculosis is brought up to date, and much new matter is incorporated, especially in regard to pathology. The discussion of the treatment is critical and practical, and in regard to the use of tuberculin Sir William Osler is very wisely cautious and scientific. We would specially draw attention to his warning that its indiscriminate use renders an estimation of its value very difficult. In regard to syphilis, an interesting summary of the administration of salvarsan and its uses is given, with a brief description of the types of case for which it is suitable. Among the new sections introduced into this edition we may mention those dealing with leishmaniasis, the sporotrichoses, pellagra, ochronosis, and hæmochromatoses. An interesting account is also given of caisson disease and of its pathology and treatment.

The eighth edition of Sir William Osler's text-book will fully maintain the reputation of its predecessors. We can cordially recommend it as a comprehensive, critical, and practical work, both for the student and the practitioner.

The Surgical Diseases of Children. By W. F. CAMPBELL A.B., M.D., Professor of Anatomy, Long Island College Hospital, Surgeon-in-Chief, Trinity Hospital, &c.; and LE GRAND KERR, M.D., Attending Pædiatrist to the Methodist Episcopal and other Hospitals. London and New York: D. Appleton and Co. 1912. Pp. 693. Illustrated. Price 25*s.* net.

THE surgery of childhood presents its peculiar problems and difficulties, not merely because of the smaller anatomical relationships, but because the surgeon is called upon to consider the effect upon development and growth that follows all surgical procedures in a child. "The authors, therefore, feel that a distinct advance in this field is possible only as the surgical diseases of childhood are viewed from both the standpoints of the surgeon and the pædiatrist. Again, the surgery of childhood imposes a heavy responsibility upon the family physician—it is always his problem first, before it is shifted to the shoulders of the specialist." It is apparently owing to these considerations that we have the present work, in which two authors have collaborated and which is dedicated to "the family physician."

The authors have treated the surgical diseases of children in a systematic way. Beginning with general considerations and going on to the examination of the child in regard to posture, gait, and pain, they come to deal with the various surgical affections and injuries in order and in detail. This concludes Part I. in 9 sections and 43 chapters. Part II. is occupied with regional surgery, bringing the total chapters up to 80. There is a useful index. All that the authors write is sound and up to date, and therefore differs little from what is to be found in the text-books of European currency. It would be tedious to refer to the many well-known expedients for the better treatment of children that have found their way into use in recent years, for surgeons all over the world are doubtless quite familiar with most of them. We have rather looked for the banishment of old and worn-out methods, and are surprised to find that the use of the plaster-of-Paris jacket for the ambulatory treatment of spinal caries finds a place in this book. In fairness to the authors we must state that they write of it in a tone of no special approval. We should have preferred the omission of the method. Scattered throughout the work are many remarks of a peculiarly practical character indicating a close personal acquaintance with the conditions described, and there are one or two sections which will be found very useful by the general practitioner; notably that on the surgical signification of pain, which is a chapter full of information. On the other hand, the sections on the production of anæsthesia and on the use of X rays in surgery are scrappy and of little real use. These subjects are much too important to be dealt with in a chapter of a book like the present.

In regard to the illustrations they are on the whole clear and good, and when they are photographs of real conditions they are unexceptionable, but we have no great love for diagrammatic photography, and to look upon the photograph of a child with an eager, penny-expectant face, supposed to be suffering acute visceral pain under a shaded skin area, is to gaze at an incongruity. In many places the construction of sentences is loose and ambiguous, and we have noticed a few grammatical errors. Where there is loose construction only it is not difficult to gather the authors' meaning, but in some instances they lead themselves to say what obviously they do not mean; as, for example, on p. 157, when discussing the status lymphaticus: "When the child becomes the victim of an apparently very trivial inflammation or injury there is a very great and disproportionate *resistance* to injuries and inflammations in particular, and to all disease in general." These may be thought to be small and unimportant blemishes in an otherwise good book. Nevertheless, they are to be noted out of consideration for the many other good books at our disposal on the same subject.

We recommend this book to the American family physician, not, indeed, as enabling him to undertake himself all that it describes, for it is hardly full enough for that, but rather as showing him how much can be done for the cure of disease, or the correction and prevention of deformity, in a child by surgical methods.

Malingering and Feigned Sickness. By Sir JOHN COLLIE, M.D. Aberd., J.P., Medical Examiner, London County Council. Assisted by ARTHUR H. SPICER, B.S. Lond., D.P.H. Illustrated. London: Edward Arnold. 1913. Pp. 352. Price 10*s.* 6*d.* net.

Sir John Collie's small volume, published last year by Messrs. Baillière, Tindall, and Cox, on "Medico-Legal Examinations and the Workmen's Compensation Act, 1906," together with various lectures and published papers by the same author, has already afforded valuable hints to members of the medical profession as to methods by which the simulation and exaggeration of disease and of the alleged effects of accidental injury may be detected and proved. The subject, however, is of growing importance, and a more serious and exhaustive treatise on the subject, such as that which Sir John Collie has now compiled, should be welcomed by a large class of medical men with less experience than his in a branch of medical practice which he has made particularly his own. He does not write, however, exclusively for medical readers, and apologises quite unnecessarily for explanations and an absence of medical terminology which should increase the usefulness of his work. He has, in fact, embodied a large number of reports written for public bodies and insurance companies, and has had in his mind the possible usefulness of his book to members of the legal profession and to those responsible for the administration of the National Insurance Act.

Such a volume should be capable of comprehension by a wide public, and we hope that it may find a place in judicial libraries. It should also be instructive to employers of labour who are interested no less than insurance companies are in checking the dishonest practices which Sir John Collie describes. After all, it is the employer of labour who, so far as workmen's compensation is concerned, is most directly interested in the prevention of malingering. Insurance companies can recoup themselves by demanding higher premiums, safe in the knowledge that insurers must have recourse to those whose financial status promises security rather than to those who underbid in the desire to attract business; and if a general lesson for laymen may be extracted from Sir John Collie's writings it is to the effect that the most insidious malingerer may one day be caught off his guard by an observer who need not necessarily be equipped with scientific knowledge. We have spoken of the book as calculated to be useful to lawyers, and we may mention that the author combines with a power of stating lucidly facts and law a grasp of legal principles and a habit of eliminating the irrelevant not always to be found in the writings of those who, without having had the advantage of a legal training, deal with legal questions affecting professional duties.

The perusal of the wiles that may be employed to lure the suspected malingerer on to the performance of some act which in his supposed condition should certainly be impossible leads us to speculate how far unscrupulous solicitors, or for that matter unscrupulous medical practitioners—both of which classes we are presuming to exist—will be likely to use the book to "coach" client or patient as to what must be avoided. We can imagine such a legal adviser earnestly impressing upon his client the necessity for ceaseless watchfulness in playing his part, and entreating him if the ingenuous examiner drops a pencil not to forget his stiff back and stoop to pick it up, or reminding him that when he has once stated that he cannot raise his hand above his shoulder he ought not to betray himself by pulling off his own jersey in the usual way when asked casually to undress. We fancy, however, that even thus coached the malingerer would be found ultimately giving away his case in his increased apprehension of the pitfalls about him.

The arrangement adopted in the work is simple and practical. General chapters on malingering, on its prevention, and on medico-legal examinations as considered apart from any particular allegation of disability, are followed by others devoted to special topics of frequent recurrence, and requiring special consideration in sifting truth from falsehood. The establishment of the truth, on whichever side it may lie, is, it must always be remembered, the primary object of the examiner, and Sir John Collie holds no brief against the working man; on the contrary, he avows his recollection of and admiration for deeds of fine independence and sufferings nobly borne, but does not revert to them after his preface because they are not relevant to the subject matter. A consideration of special forms of malingering, which include the tests recommended in cases of alleged ear and eye trouble, and for the examination of the back, as well as the uses to be made of X ray photography, is followed by chapters discussing the effects of the Workmen's Compensation Act and the National Insurance Act; and some practical observations upon the preparation of medical evidence and the position of the medical man with regard to allegations of libel and slander are added. There is a chapter which touches the fringe of a subject of great importance in connexion with all forms of compensation for injury. "Accidents where pre-existing disease is present" have received practically no attention at the hands of the legislature in the imposition of heavy liabilities upon employers, by means of Acts of Parliament couched in terms of the most general description, and employers undoubtedly have suffered unjustly thereby. The questions of liability which arise in this class of case, and the question of the limitation to liability which justice should impose, are interesting French writers at the present moment, and may some day receive with us the recognition which their importance deserves. Reference should be made to the useful and practical chapter at the end upon electrical testing, for which the author acknowledges indebtedness to Dr. Christine Murrell. The book is copiously illustrated throughout.

The Surgery of the Rectum for Practitioners. By Sir FREDERICK WALLIS, M B., B.C. Cantab., F.R C.S. Eng., Surgeon to Charing Cross Hospital, St Mark's Hospital, and the Grosvenor Hospital for Women and Children. London: Henry Frowde and Hodder and Stoughton. 1912. Pp. 355. Price 15s. net.

UNFORTUNATELY the author did not live to see the issue of this, the second, edition of his book; he corrected the last proofs only a few days before he died. His book had already achieved a position in the literature of surgery, and this new edition would have enhanced his reputation. It is eminently a practical book, though theory is by no means neglected. It contains just those things which the general practitioner wishes to know about the diseases of the rectum, and the striking illustrations render the descriptions easily comprehensible. A good account is given of the anatomy of the rectum and also of its development—matters of importance in connexion with the surgery. As is well known, the author held that pruritus ani is commonly associated with ulceration of the rectum, and the correctness of this opinion is shown by the fact that treatment based on it will in many cases lead to a cure of the itching.' He did not claim that an ulcer was always the cause, but he urged that it should always be sought for.

We know no work on the surgery of the rectum better suited for those who have not devoted special attention to this branch of surgery.

The Nutrition of the Infant. By RALPH VINCENT, M.D. Durh. Fourth edition. London: Baillière, Tindall, and Cox. 1912 Pp. 343. Price 10s. 6d. net.

IN the present edition of Dr. Ralph Vincent's book on the nutrition of the infant, although a number of new arguments have been adduced for the exclusive use of unboiled milk as a food for artificially fed infants, the general spirit and arrangement of the book are on the now familiar lines The particular modification of milk to which Dr. Vincent gives the name of "fat-whey," and which is adapted for home use, is fully described in Chapter IV., where the printed directions, supplied to patients attending at the Infants' Hospital, for preparing this highly complicated mixture are given in detail. These directions are more suitable for middle-class mothers who should not rely on charitable institutions for medical treatment. The use of a dried whey powder, which is cheaper to employ than home-made whey, would obviate this difficulty.

An important argument for the use of raw milk is given in the chapter on the bacteriology of milk, and the sequels that await the operations of the physician who has not mastered the particulars are given here in all their lurid details. According to Dr. Vincent the chief bacteriological rôle in the processes of digestion in the infant is played by the streptococcus lacticus. This micrococcus is active only in the small intestine, and it is an obligatory fermentative bacterium—that is to say, it is not a facultative proteolytic bacillus like the bacillus acid lactici. Heretofore its presence and the importance of its functions have escaped notice, owing to the fact that it does not grow on ordinary nutritive media. This is, according to the author, the life-saving bacterium which we destroy when we boil milk, and this is the reason why infants fed on boiled or heated milk develop rachitis and all the other gastro-intestinal conditions which swell our infant mortality tables. One difficulty in accepting these views is that in Paris, New York, and other large cities where sterilised milk has been supplied on a large scale the infant mortality rate has been notably reduced. "It would appear," says Dr. Vincent (p. 168), "to be established that a fresh supply of the streptococcus lacticus in a faintly acid medium, such as milk, is an essential requirement of the infant." If this is so, how can the infant fed on recently boiled milk survive?

Although we find somewhat extreme the importance that Dr. Vincent attaches to the rôle of the streptococcus, in contradistinction to that of the bacillus lactis aerogenes and the bacillus acidi lactici, it is quite right that the attention of the medical profession should be drawn to the activities of a micrococcus which undoubtedly has an important place in the bacterial flora of the intestine, and to which heretofore too little attention has been given. But needful as it is to understand the essentials of percentage modification of milk—indeed, without such knowledge it is doubtful whether anyone can conduct the scientific feeding of infants—it must be remembered that in America, which is the home of the method, the practice of laboratory feeding and its nearest counterpart in home modification is rapidly dying out. And, further, it is worth while reminding ourselves that America, a country which spent such vast sums of money in securing a pure supply of milk which could be safely given to infants without boiling, is now boiling the pure milk which it has been at such infinite pains to procure. We cannot help thinking that Dr. Vincent is championing a somewhat unpromising cause.

Radioactive Substances and their Radiations. By E. RUTHERFORD, D.Sc., Ph.D., LL.D., F.R.S., Professor of Physics, University of Manchester. Cambridge University Press. 1913. Pp. 699. Price 15*s.* net.

THIS is the production of one who is master of his subject. Familiar as one may be with the researches of Professor Rutherford in the field of radioactivity, it is not until this book is perused that it is possible to realise the enormous amount that he has done in this new and important branch of science. This work, for example, greatly supplements his previous publication "Radioactivity," the last edition of which appeared in 1905. Since that time many new discoveries have been made, including a number of radioactive substances. In 1905 20 of these were known; there are now 32, and others are likely to appear in the future. While the book is rather outside the scope of the medical practitioner who has not been specially trained in physics, it will appeal strongly to the student of pure science, and there are some chapters that will afford interesting reading for anyone who is concerned for the future of medical science, even though he have not enough of the mathematical faculty or technical knowledge to follow the whole text. The first six or eight chapters are particularly recommended from the latter point of view, also Chapters XIII. and XIV., dealing in particular with radium, and Chapter XIX., on the radioactivity of the earth and atmosphere.

Though the book is intended more for the physicist than the physician, the latter may well be urged to read it. He will learn much from its perusal and have the satisfaction of feeling that his interesting knowledge is obtained from the latest authoritative work on a fascinating subject.

Handbuch der Vergleichenden Physiologie. Herausgegeben von HANS WINTERSTEIN. Lieferung 29. Band I. *Physiologie der Atmung.* Zweite Hälfte. Bogen 21–30. Pp. 321–480. Lieferung 30. Band III. *Physiologie des Energiewechsels.* Erste Hälfte. Pp. 485–644. Lieferung 31. Zweite Hälfte. Pp. 625–786. Each part 5 marks. Jena: Gustav Fischer. 1912.

THE whole of Part 29 is from the pen of Professor Babák, of Prague, who deals first with the mechanisms and innervation of the aquatic arthropoda. Then follows a particularly interesting account of the tracheatæ and the marvellous adaptations of the mechanisms concerned in the process of respiration in insecta generally. Even when the concluding page is reached the author is still in the midst of his exposition of the respiratory arrangements and the nervous mechanism controlling the respiratory processes in beetles. Naturally the work of Plateau is largely drawn on, but the author adds a large amount of his own original work to the already colossal amount of details in regard to insect respiratory processes generally. We commend most heartily Professor Babák's contribution to the attention of zoologists and comparative physiologists as an exceptionally interesting and detailed exposition of the beauties of mechanical adaptation in articulate animals in regard to the all-important process of respiration.

In Part 30 Professor Biedermann continues his elaborate exposition of the supporting and skeletal tissues. A very full exposition is given of the supporting and mechanically protective structures in the protozoa, such as foraminiferæ and radiolarians, with a wealth of detail that can appeal only to professed zoologists. Then follows an equally thorough and minute account of all that relates to the skeletal tissues of sponges and echinoderms. The wealth of chemical, physiological, and morphological details is almost overwhelming. Towards the end of this part the author proceeds to give an account of the hard parts of the corals. Thoroughness is the measure of the author's endeavours, and he has succeeded both in regard to the matter of the text and the illustrations.

Part 31 contains the continuation of Professor Godlewski's contribution on the Physiology of Reproduction on such subjects as secondary sexual characters of the female and their relation to the genital glands, the inner secretion of the ovaries, hermaphroditism, normal and abnormal. Then follows a very full account of the changes that accompany maturation of the ovum and a rather elaborate description of parthenogenesis. Insemination and its equivalent in the lower invertebrates are next considered. The extraordinary arrangements in some of the lower invertebrates connected with the act of copulation are described and figured, the account of this process in worms and in certain mollusca, such as helix pomatia, being particularly full. Arthropoda are next dealt with. In this chapter, as in the others, the illustrations are a marked and useful feature. This brings the author to the vertebrates. A short account (about 16 pages) is given of similar events in fish, amphibians, reptiles and birds, and mammals. This part ends with a short account of ovulation and artificial impregnation—a process first practised by Spallanzani on frogs.

Forensic Medicine and Toxicology. By C. O. HAWTHORNE, M.D. Glasg., Lecturer on Forensic Medicine in the London School of Medicine for Women. Third edition. London: Edward Arnold. 1912. Pp. 344. Price 6*s.*

IN reviewing a third edition of a work but little need be said in regard to its general scope and nature. Dr. Hawthorne has presented in a convenient and classified form the principles and practice of forensic medicine as these concern medical students and practitioners. The various facts are set out clearly and succinctly, and students preparing for the ordinary pass examinations will find all the information they require put in a suitable form.

As a short work of reference practitioners can with advantage consult its pages regarding the main points in medico-legal cases where they may be called upon to testify. Attention may be especially directed to the chapters dealing with medical evidence and reports, documentary evidence, professional confidences, and similar subjects which are constantly presenting themselves as matters of difficulty in actual practice where a medical man's evidence is required. The portion of the volume devoted to toxicology will also be found of interest. Dr. Hawthorne has refrained from quoting illustrative cases; this procedure renders it possible to decrease the size of the work, an advantage that, in our opinion, compensates for any loss of interest. The present edition has been carefully revised and to a large extent rewritten.

Grundriss der Psychiatrischen Diagnostik, nebst einem Anhang, enthaltend die für den Psychiater wichtigsten Gesetzesbestimmungen und eine Uebersicht der gebräuchlichsten Schlafmittel. Von Professor Dr. RAECKE, in Frankfurt a.M. Mit 14 textfiguren. Dritte vermehrte und verbesserte Auflage. Berlin: August Hirschwald. 1912. Pp. 188. Price 3 marks.

THIS is an excellent little compendium of psychiatrical diagnosis. Both from the neurological and the purely psychiatrical standpoints the information it presents in small compass is accurate and comprehensive. The book is thin and will easily slip into the pocket; it is well printed and well arranged, while a good index renders easy the finding of any special subject. In the first section the conduction of an investigation into the patient's physical and mental states is described, and no detail appears to have been omitted. The student will here find practical methods of examining the state of the patient's intelligence; Jung's association tests are explained and exemplified, also Heilbronner's picture methods. Binet's scheme for the examination of children of each year from 3 to 12 is given in its entirety. There is a useful section on the simulation of nervous and mental symptoms. The second part of the compendium is taken up with brief descriptions of various types of mental disease, largely following Kraepelin's classification; the main symptoms are arranged so as to facilitate diagnosis. An appendix contains an abstract of German law as it affects the psychiatrist, and a useful summary of the chief drugs in vogue for the treatment of sleeplessness in the insane.

LIBRARY TABLE.

Heredity and Memory. By JAMES WARD, Sc.D., Professor of Mental Philosophy in the University of Cambridge. Cambridge: At the University Press. 1913. Pp. 56. Price 1*s.* 6*d.*—The author is of opinion that in the consideration of the problem of heredity psychology may show us that its secret may be found in the facts of memory, provided we look at the world from a spiritualistic and not from the usual naturalistic standpoint. A large part of the work is occupied with a lucid and powerful criticism of Weismann's hypothesis, and an alternative "mnemic theory" is set forth, according to which the germ cell is a definite unity, the counterpart of the structural alterations wrought by habit in the parental organisms with which it has been in sympathetic rapport all along. It is potentially the latent entelechy of a future organism. There is no ground for separating organic from psychical life; all life *is* experience. It cannot be assumed that experience has no part in the building up of the organism and begins only when a viable organism is already there. For the author ontogeny and heredity are aspects of a single process—a process that only experience will explain. The mnemic theory requires not merely physical records or "engrams," but living experience or tradition, and it will work for those who can accept a monadistic or pampsychist interpretation of the beings that make up the world.

International Clinics. Edited by HENRY W. CATTELL, A.M., M.D., Philadelphia, in collaboration with many others. 4 vols. London and Philadelphia: J. B. Lippincott Company. 1912. Price 35*s.* net the four.—The fact that articles appear in one or other of the four volumes of this useful quarterly publication by authors whose names carry real scientific and professional weight in this country and in the United States sufficiently indicates the quality of the work. It is impossible to review such a publication as this. To do so adequately would demand a critical examination of most of the 107 separate articles contained in the four volumes. It is sufficient to say that they embrace practically all the subjects that go to make up the field of medical science, and include articles also on certain subjects in medical economics, history, and biography. They are well illustrated with cuts and half-tones.

Astonishing Anatomy! By TINGLE. Vol. I., Part I., Fasciculus I., Section A (being Vol. II., Pt. VII., Fasc. III., Sect. F, of the Revised 1912 Edition, also Vol. V., Pt. IV., Fasc. X., Sect. S, of the 1911 Edition (New Series), and Vol. XI., Pt. II., Fasc. VIII., Sect. O, of the Abridged 1910 Edition). Fully illustrated by numerous woodcuts, abrasions, finger-prints, and thumb-nail scratches. London: Sir Isaac Pitman and Sons. 1913. Pp. 86. Price 1*s.* net.—The title should warn the reader to a certain extent what to expect—namely, a skit, and not an appreciation of the wonders of morphology. A note facing the title page advising the reader that by moistening the cover of the book and sprinkling it with mustard an efficient plaster will be obtained should confirm the impression. Such testimonials as "Quainter than *Quain*," and "I know no better anatomy—*Eugen Cocoa*"; and such *errata* as "For 'previous rotten' accounts" read "previous *written* accounts," and for "equally eminent authority" and "valued contributor" insert "*author* in each case," should make the impression a certainty. The contents of the book are extremely funny, and we can make no attempt to select anything as more particularly deserving quotation than anything else. The same difficulty we remember to have occurred when attempting to review "Wisdom while you Wait," a masterpiece which has obviously formed the model for the author of "Astonishing Anatomy."

Clinical Studies for Nurses. By CHARLOTTE A. AIKENS, formerly superintendent of Columbia Hospital, Pittsburg. Second edition. Illustrated. London and Philadelphia: W. B. Saunders Company. 1912. Pp. 569. Price 10*s.* net.—The purpose of this volume does not differ greatly from that of "Primary Studies for Nurses" by the same writer, the first volume of the series of which this is the second. It is designed to assist in securing graded instruction for nurses; to simplify and systematise the problem of teaching; to promote uniformity; to save time for teachers and pupils, and also to serve in some measure as a handbook for the nurse who is already trained and at work away from the training school or hospital. The writer has gathered into a volume matter previously published separately and dealing with subjects often very unsystematically taught by lecturers. The work aims to include the main points about the commoner diseases and their management, which a nurse must know if she is intelligently to assist the physician. The author thinks that no general training in nursing should be considered complete which does not include both theoretical and practical courses in obstetrics, as every nurse should know how to deal intelligently with obstetric emergencies. The desirability of providing during the last six months of the course for at least half a dozen class periods relating directly to private nursing is insisted on, as is also the importance of lessons in the ethical and business principles which should guide a nurse in applying for a hospital position. The need of a reference library for nurses in every nursing institute or training school is emphasised, and the writer furnishes a list of useful books of reference. This work will be useful to those interested in the training of nurses.

MISCELLANEOUS VOLUMES.

THE practical pursuit of archæology demands a considerable amount of leisure and a purse whose fulness is in direct ratio to the ardour of the possessor, but as a hobby and as a means of recreation during leisure hours and periodical holidays there are few occupations which can give such profitable results for a small amount of expenditure in money. In whatever manner archæological study is approached the subject appeals to the votary either with world-wide or only local opportunities in a useful manner, for an appreciation of the past is, in our modern excessive hurry, of real psychotherapeutic value. Archæology, too, covers a very wide field, and its different branches will appeal to minds of many moulds. In *Rough Stone Monuments and their Builders*, by Dr. ERIC PEET (London: Messrs. Harper and Brothers. 1912. Pp. 172. Price 2*s.* 6*d.* net), one of these branches is briefly but adequately dealt with, and the little book, which is one of Harper's Library of Living Thought Series, is exactly the kind which the casual student requires, while the more serious investigator will no doubt be glad to have in concise form a sketch of our present knowledge of megalithic monuments A fairly full account of these monuments in Great Britain and Ireland is contained in the introduction and two following chapters, the succeeding chapters dealing with Scandinavia, France, Spain, Portugal, Italy, Africa, Malta, and the dolmens of Asia Lastly, the writer discusses the builders of the monuments and their habits, customs, and religion, who they were and whence they came, inclining to the theory that megalithic builders were one race whose work was spread far and wide owing either to trade influence or migration What that race was is a problem which may never be solved

The pestilent character of the common house fly as a patron and fomenter of all that is filthy, unsavoury, and insanitary, and as carrier of infection and disease, while well known nowadays to medical men and scientists, and to some extent to cultured people generally, is still unknown to the great mass of the people We reviewed in THE LANCET of August 17th 1912, an excellent book by L O Howard on the subject, but such a book would not find its way among the populace generally and, if it did, it would be above their heads We welcome, therefore, a useful pamphlet by Mr ERNEST E AUSTEN, of the British Museum, on *The Housefly as a Danger to Health* (London British Museum (Natural History), Cromwell road 1913 Pp 11 Price 1*d*), which describes, with excellent illustrations, the breeding places and life history of the insect, the relations of house flies to disease, with some account of the remedies and preventive measures that can be used against them The medical practitioner especially may find this penny pamphlet of service in emphasising the importance of keeping the troublesome creatures out of the sick room and the kitchen ——The evil influence of the mosquito in helping to bring about racial degeneration has of late been the subject of scientific consideration, while the practical hygienic results of the extermination of this pest have been demonstrated in many places, and nowhere more conspicuously than on the Isthmus of Panama But in mosquito ridden localities that have not the advantage of being under military domination the public *must work out its own salvation, and for this popular* instruction in the relation of the pestiferous insect to disease and the methods by which it may be destroyed, is essential We have noted already several books designed and suited for that purpose, to which must now be added Dr ALVAH H DOTY'S *The Mosquito* (London and New York D Appleton and Co 1912 Pp 79) It is so written as to give all necessary information in popular language

Dr J JOHNSTON ABRAHAM, the author of 'The Surgeon's Log,' a very delightful book of travel, is an Irishman, or at any rate was educated in Ireland, and we are sure he will not mind our frivolity when we say that in *The Night Nurse* (London Chapman and Hall, Limited 1913 Pp 311 Price 6*s*) his latest book, he reminds us of Gilbert's Lord Chancellor, whose occupation consisted in "giving agreeable girls away" Yet Dr Abraham writes with the proper element of tragedy mingled with comedy The purely professional portions of the book are exceedingly well done, and the story ranges from grave to gay, in a manner characteristic of the land where the scene is laid ——A thrilling story with a strong psychological interest is *The Blue Wall* by RICHARD WASHUM CHILD (London Constable and Co, Limited 1912 Pp 378 Price 6*s* net) It contains a study of a successful struggle against the morphine habit written by the heroine during her voluntary solitary confinement, which is very accurate and graphic The rest of the book, however, is a jumble of psychology, genetics, and occultism with no particular scientific interest ——The author of *The Triuneverse. a Scientific Romance* (London C Knight and Co 1962 (*sic*) Pp 221) does not reveal his identity further than by describing himself as the author of 'Space and Spirit" Whoever he is, he has considerable acquaintance with physical science and the gift of clear exposition so far as the subject admits of it There is a slender framework of story, the object being to set forth a theory of the structure of the "Triuneverse' made up of a physical series that forms a multiverse which merges into an organic series forming an organiverse, this in turn developing into a spirituverse The whole forms the triuneverse, and that 'to the height of this great argument" the anonymous author (the average reader can certainly not follow him there) successfully attains is perhaps doubtful

Microscopy is now such a large and important subject that a small book dealing with the matter is hardly likely to appeal to medical men, nevertheless they may often be asked by friends to recommend a simple book on the microscope, and they may be glad to know of *The Beginner's Guide to the Microscope*, by CHARLES E HEATH, F R M S (London Percival Marshall and Co 1912 Pp 119 Price 1*s* net) which gives all the information that the novice is likely to require in his early investigations With this book, and perhaps one dealing with objects for the microscope the amateur will be sufficiently equipped as regards literature until the attractions of his hobby make him require more advanced treatises, of which there is a useful list at the end of the book under notice

JOURNALS AND MAGAZINES

The Journal of Physiology Edited by J N LANGLEY, Sc D, F R S Vol XLVI, No 1, March London C F Clay Cambridge University Press Pp 80 Price 5*s* —G R Mines has a paper on Summation of Contractions He used the intramuscular nerves of the sartorius with finely graded stimuli the heart of frog and torpedo From his experiments he concludes that liberation of acid in the muscle as a result of excitation precedes the act of shortening and possibly causes it His other conclusions are formulated in the text —A V Hill contributes a highly technical paper on the Energy Degraged in the Recovery Processes of Stimu*lated Muscles, which is a continuation of a paper published* in 1911 By means of a new thermo electrical apparatus the rise of temperature of a muscle may be estimated to within a millionth of a degree In a muscle excited in oxygen the production of heat is continued for long periods after the mechanical response is over In a muscle left in nitrogen there is no trace of heat production after the contraction is over, but if it be transferred to oxygen the same amount of heat production as is normal occurs after the contraction is over It is suggested that the processes of muscular contraction are due to liberation of lactic acid from some precursor and that oxygen in all living tissues is used largely in the oxidations, whereby the molecular machine, like a steam engine charging an accumulator, builds up bodies containing considerable amounts of free energy, which as in the accumulator, can be discharged whenever desired on subjecting the tissues to appropriate stimuli

L'Hygiène March, 1913 (Messrs Goupil and Co, 25, Bedford street London)—The current issue of this interesting and well illustrated review contains two articles of particular interest at the present moment The first is L'Hygiène du Soldat, by Dr Horace Bianchon which is concluded in this number At the present moment when five nations in Europe are still under arms, and six others are placed in such relations to each other and to the belligerents that, remote as the probability may now be, it is possible that they too should be involved, the question of the health of the soldier is of the greatest possible importance Dr Bianchon describes the responsibilities of the medical officer of the regiment very well, pointing out that he has to be an all-round man if he is to give satisfaction and to feel that he is discharging his responsibilities. He must, for example, be able to satisfy the military authorities as to the absolute necessity of certain soldiers being placed on the sick-list, and he must at the same time be able to "dépister les ruses," by which many malingerers will attempt to avoid the discharge of their duties. This means that he must be a good diagnostician; also he must be rapid in his decisions, a skilful surgeon, and an able administrator. Dr. Bianchon's article is not written with regard to the duties of the military surgeon in times of war, he is discussing the methods of maintaining the health of the soldier while with the colours; but it follows that the more perfect the administration of the medical service of a nation is in times of peace the more effective will the army be as a fighting machine. For first, the number of healthy men in the army will be larger if hygienic precautions are duly taken; and secondly, the routine for coping with the pathological results of war—disease as well as injury—will only operate satisfactorily under stress if it can be tested with deliberation. The other article in this issue of *L'Hygiène* which calls for notice is a symposium on the subject of depopulation, in which are collected the opinions of Dr. Löwenthal, the late Professor Lannelongue, Dr. Bertillon, Dr. E. Labat, M. Klotz (the French Minister of Finance), Professor Hayem, Professor Pinard, M. Paul Strauss, Professor Chantemesse, Dr. Jacquet, and lastly M. Gustave Mesureur, Director of the Assistance Publique in Paris. The general conclusions which are come to by M. Henri Meurisse as a result of the interesting evidence which he has got together are:—(1) that the depopulation in France, which has become critical, is the consequence of the social conditions, the improvement of the lot of the individual conducing to the diminution of the race; and (2) that, serious as the matter is, the remedy lies not in improving the public health so much as in the alteration of public manners. Is it possible, the conclusions ask, for some legal enactments to restore to the French nation *la goût de famille?* The various opinions of the able men which have been collected in this essay will be read with great interest, but we do not quite see in what direction the law can help other than by combating alcoholism, tuberculosis, syphilis, criminal abortion, and, where possible, the various causes of infantile mortality. Such legislation, however, is made to insure the promotion of public hygiene, and can only in an indirect way be considered to promote and encourage domesticity. In short, the reasons for desiring a logical plan upon which to fight a growing danger are set out in this symposium, but the terms of such a plan are only barely suggested.

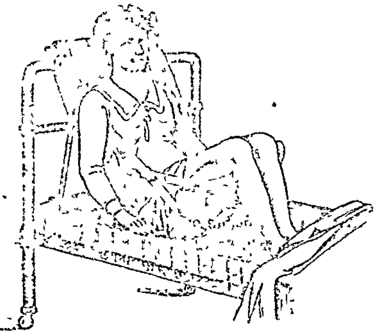
Quarterly Journal of Experimental Physiology. Editors: E. A. Schäfer, F. Gotch, W. D. Halliburton, C. S. Sherrington, E. H. Starling, and A. D. Waller. Vol. VI., No. 1. London: Charles Griffin and Co., Limited. Pp. 108. Price 7*s.* 6*d.*—W. Cramer and Harold Pringle record their experiments on the Coagulation of Blood. They find that oxalate plasma, when filtered through a Berkefeld filter, does not clot on the addition of calcium chloride. Some of the phenomena which have been attributed to the chemical or physical properties of the unorganised constituents of the plasma are in reality due to behaviour of the living cellular elements, and amongst these the platelets play a most important rôle.—W. Gavin finds that the administration of extracts of pituitary body and corpus luteum to dairy cows, by the mouth or by subcutaneous or intravenous injection, causes practically no alteration in the total quantity per diem or in the quality of the milk.—E. A. Schäfer records the effect of pituitary and corpus luteum extracts on the mammary gland in a young married subject nursing her second baby. There is ample evidence of the positive effect of these extracts, especially as regards the pituitary extract. It is desirable that more observations of this nature should be made.—C. M. Gruber finds that natural and artificially aroused impulses in the phrenic nerve, which is a mixed nerve containing both afferent and efferent fibres, can be arrested by an electrical, block, and by freezing mixtures, especially by liquid air.—T. Graham Brown continues his elaborate researches on the Physiology of the Nervous System, and in this (the twelfth) contribution deals with Rhythmic Responses in the Simple Reflex—Progression—Scratch.—F. R. Miller records his results on Reactions of the Salivary Centres. Stimulation of the central end of the lingual nerve—lingualis reflex—amongst other effects causes abundant secretion from the ipsilateral submaxillary gland. Similar stimulation of the glosso-pharyngeal nerve causes similar results in the parotid of the same side, while stimulation of the central end of the vagus—gastric vagus reflex—causes secretion from the submaxillary and parotid glands, but the threshold is high. The salivary reflexes are independent of the associated muscular reflexes. The chorda tympani contains afferent fibres for the salivary reflex. The salivary secretion of curare poisoning is caused by asphyxia. In the bulb two points can be localised: stimulation of the one causes parotid secretion, of the other submaxillary secretion.—P. T. Hering contributes Further Observations upon the Comparative Anatomy and Physiology of the Pituitary Body of Cyclostomes (lamprey and myxine), Elasmobranchs (skate), Teleosts (cod), Amphibians (toad and frog), Reptiles (tortoise and green lizard), and Birds (fowl, starling, and thrush). From his observations the author concludes that the presence of active physiological principles in the pituitary body is associated with a tissue of nervous origin—the pars nervosa. There is reason to believe that the granules therein contained are representatives of the active principles, and that they are products of part of the epithelial lobe—pars intermedia—carried to, elaborated in, and stored by, the pars nervosa.

Jahreskurse für ärztliche Fortbildung. February, 1913. Munich: Lehmann. Price 18 marks per annum.—The February number is devoted to a review of recent work in relation to diseases of the heart and lungs. Professor Hoffmann, of Düsseldorf, writes on irregularity of the heart beat. The methods of study in clinical work are auscultation, palpation, the sphygmograph, sphygmocardiochronograph, and electrocardiogram. The work of Mackenzie and Lewis is described in some detail. According to Engelmann, the nervous control of the heart influences it both positively and negatively in four different directions, the rate (chronotropic), the response to stimulus (bathmotropic), the conductivity (dromotropic), and the contractile power (inotropic). The various forms of cardiac irregularity are classified under the headings of sinus arrhythmia, including the juvenile respiratory arrhythmia and the tachycardias; the ectopic arrhythmias, including extrasystoles and extrasystolic tachycardia (heart galloping); the various forms of heart-block, absolute irregularity, and pulsus alternans; sphygmograms and electrocardiograms are given illustrative of these conditions. The treatment is briefly discussed, and also the prognostic import.—Velden contributes an article on the physical diagnosis of heart affections, and the significance of variations in the size, motility in the chest, and the heart sounds.—Stähelin, after a brief dissertation on the relations between the lungs and the circulation, discusses treatment by means of the various tuberculins. He passes in review Koch's old tuberculin, describing how it is used in diagnosis. For treatment, doses of 1/10 mg. twice weekly are recommended; but if this causes fever 1/100 or even 1/1000 mg. may be used. It is most useful for early apyrexial cases, but may be used also in the presence of fever. New tuberculin (T.R.), bacillary emulsion, Denys' tuberculin, and Beraneck's tuberculin are then described. The last, prepared by Beraneck, in Neuchâtel, contains an albumose-free bouillon culture extracted with phosphoric acid. It is put up in various dilutions, one recommended for treatment being A/64 in 1/20 c.c. doses (Sahli), increased if no reaction appears up to ½ c.c. Rosenbach's and Landmann's tuberculins are also mentioned. Opinion differs widely as to which of these is the best, and some think that they all contain the same active principles. Tuberculin ought not to be used when there exists a generalised tuberculosis, diabetes, or other systemic disease.

New Inventions.

PILLOW AND STRAPS FOR MAINTAINING THE "FOWLER POSITION."

THE comfort of these straps to both patient and nurse has been demonstrated by a trial extending over three years. The pillow is 2 feet in length and 1 foot in width, is stuffed firmly, and is covered with mackintosh. In the centre of one side a semicircle is cut. Two webbing straps are attached to one face of the pillow in its long axis, the adjacent ends of these straps converging to terminate in a buckle at each end of the pillow. Two separate straps, having at one end a leather loop, connect at this end with the head rail of the bed, and at the other end with the buckles on the pillow. The pillow and straps are devised for maintaining, not for dragging the patient into the Fowler position. The method of use is for the patient to be supported, at the required angle, on a bed rest. The two loose straps are looped to the top rail at the head of the bed about 2 feet apart. If the head rail of the bed is on a lower level than the shoulders of the patient, the straps must pass from the bed rail up over the top of the bed rest and then under or outside the patient's arms down to meet the buckles. The pillow with its straps below—i.e., next the bed—and the edge with the semicircular gap upwards (next the rectum) is covered with a warmed towel and slid across the bed beneath the thighs reaching up to the buttocks. The ends of the straps from the head of the bed are passed through the buckles of the pillow. *A nurse on each side of the patient, with one hand* under the pillow, first gradually raises the pillow and thighs and then, with the other hand, tightens the straps in the buckles. These straps must be tightened equally until they are quite taut. On removing the hands from beneath the pillow the patient is supported on the seat of a swing, but the seat of the swing—the pillow—rests, not against the buttocks, but against the back of the thighs immediately in front of the buttocks. The soles of the feet are supported on an ordinary pillow. The semicircular opening, lying opposite the perineum, allows access to the urethra and rectum and is especially useful if saline solution is being administered per rectum.



Messrs. Allen and Hanburys, Limited, of Lombard-street, London, E.C., have, at my request, undertaken the manufacture of these straps.

O. HAMILTON WHITEFORD, M.R.C.S. Eng.,
Plymouth. L.R.C.P. Lond.

LISTER MEMORIAL FUND.

THE contributions recently made to the Lister Memorial Fund include the following:—

	£	s.	d.
Aldershot Medical Society	1	12	6
Bedford Medical Society	2	2	0
Bolton Medical Society	2	2	0
Cardiff Medical Society	5	5	0
Clothworkers' Company	100	0	0
Corporation of the City of Glasgow	52	10	0
Devon and Exeter Medico-Chirurgical Society	2	2	0
Eastbourne Medical Society	10	10	0
Folkestone Medical Society	1	1	0
Grocers' Company	52	10	0
Halifax Medical Society	2	2	0
Harveian Society	10	10	0
Huddersfield Medical Society	5	5	0
Ironmongers' Company	25	0	0
Jersey Medical Society	5	6	0
Leicester Medical Society	3	3	0
Manchester Cooperative Wholesale Society	21	0	0
Manchester Medical Society	3	3	0
Mercers' Company	105	0	0
Merchant Taylors' Company	262	10	0
Newcastle-on-Tyne Clinical Society	5	5	0
Pharmaceutical Society	10	10	0
Physiological Society	10	10	0
Reading Pathological Society	2	2	0
Rochdale Medical Society	1	1	0
Royal College of Physicians	21	0	0
Royal College of Surgeons	52	10	0
Royal Dublin Society	50	0	0
Royal Horticultural Society	52	10	0
Royal Microscopical Society	5	5	0
Royal Sanitary Institute	5	5	0
Royal Society	50	0	0
Skinners' Company	105	0	0
Society of Apothecaries	52	10	0
Southampton Medical Society	2	2	0
Southport Medical Society	3	3	0
Torquay Medical Society	3	3	0
York Medical Society	2	2	0

Among the subscriptions from individuals is a donation of 500 marks from Professor Ehrlich and one of £100 from Lord Strathcona.

Committees for the purpose of collecting subscriptions have been formed by the Universities of Oxford, Cambridge, and Durham, and other Universities are also making efforts locally to promote the success of the memorial. Arrangements have also been made for the formation of committees in the British Dominions beyond the Seas and in foreign countries.

The proposed memorial will be of a threefold character, and consist of: (1) a simple marble medallion bearing a sculptured portrait of Lord Lister to be placed in Westminster Abbey among the monuments of the nation's illustrious dead; (2) a larger and more conspicuous monument to be erected in some public place in London; and (3) the founding of an International Memorial Fund from which either grants in aid of researches bearing on surgery or rewards in recognition of important contributions to surgical science will be made, irrespective of nationality. A considerable sum of money is required to carry out these proposals. Donations should be sent to the Treasurers of the Fund, at the Royal Society, Burlington House, London, W.

THE LATE DR. EDWARD ADRIAN WILSON.—March 27th being approximately the anniversary of the death of Captain Scott and his companions on the return from the South Pole [illegible] in the chapel of [illegible] Wilson, an [illegible] field, in the [illegible] Dr. Wilson had hoped on his return from the South Pole to *enter the ministry of the Church*. The canon also quoted a letter written to a friend by a member of the expedition, in which the writer said: "Words must always fail me when I talk of Wilson. He really is the finest character I have ever met. Every quality is so solid and dependable, sound, shrewdly practical, intensely loyal, and utterly unselfish. He is the most popular member of our party."

THE LANCET.

LONDON: SATURDAY, APRIL 12, 1913.

The Care of the Mentally Deficient.

IN fulfilment of the promise made on behalf of the Government when the withdrawal of the Mental Deficiency Bill was announced last year, the Home Secretary has introduced into the House of Commons a measure on similar lines, which, so far as the Parliamentary omens of the moment will allow of a forecast, seems likely to pass into law during the present session. There is the more reason to entertain this hope in that the provisions of the new Bill, a comprehensive abstract of which appears elsewhere in our columns, are in some respects more limited in their scope, and therefore less likely to arouse prejudice and afford opportunity for misunderstanding and misrepresentation than were Mr. MCKENNA's original proposals. It will certainly not be a matter of regret to those who most keenly realise the gravity of this problem, if it has been found possible, without the sacrifice of any essential principle, to meet criticism which had its source—and this was undoubtedly the case with much, at all events, of the opposition to the abortive measure of last session—in a genuine and conscientious, if quite groundless, fear lest measures for the control of the feeble-minded should be abused and perverted to the violation of the rights of the individual citizen. The safeguards provided in the present Bill should satisfy even the most exacting critic that any risk of this sort is entirely illusory. What is perhaps more to be feared is that these elaborate precautions against abuse may be found in practice to hamper so largely the operation of the measure as to curtail to some extent its utility and to deter judicial authorities from applying its provisions in face of ignorant or interested opposition. It may be hoped, however, that public opinion on this question, which has developed so remarkably within the last few years, will be strong enough to cope with this difficulty should it prove serious.

The Bill now before Parliament, though embodying the same general principles as last year's measure, differs very widely from it in some details of considerable importance. Apart from the greater limitation of its scope, to which reference has already been made, the most notable of these differences is in respect of the central authority for the administration of the proposed Act. In accordance with the amendment adopted when the matter was discussed in Committee last session the present Bill entrusts this duty to the Lunacy Commissioners, the constitution of that body being modified, its numbers increased, and its title changed to that of the Board of Control. It is provided that a certain number of the members of the Board, including all the medical members, shall be appointed by the Home Secretary, while the legal representatives are to be nominated, as heretofore, by the Lord Chancellor. This arrangement, which establishes a single central authority for the care and control of the insane and the feeble-minded, and which brings that authority into intimate relation with the Home Office, appears to be acceptable on grounds alike of logical propriety and of practical convenience. It should meet the views of those who recognise the importance of assimilating the treatment of the feeble-minded to that of the insane, while at the same time it will, no doubt, secure for the guidance of the new administrative body the valuable experience acquired by the Departments of the Home Office which have had to deal for many years with criminal defectives and inebriates. And as these latter categories of the mentally deficient will probably be amongst the first to be brought under the operation of the Act, their transfer to the jurisdiction of the new authority will now be a much simpler process, and will be attended with much less risk of friction than would probably have been the case had the administration of the Act been entrusted to a totally distinct board, independent of and unconnected with the Home Office. Moreover, it may be expected that the incorporation of the Lunacy Commissioners under their new style in this department of the Government will have indirect results of an important and beneficial character by bringing the influence of alienist opinion into effective contact with those other branches of Home Office administration, which in prisons, in reformatories, and in inebriate institutions have to deal with populations so largely recruited from the ranks of the degenerate and the mentally abnormal. The advantages that should accrue to the work of these departments from a fuller recognition of the point of view and the methods of psychiatry are too obvious to need more precise indication. For these various reasons, then, the proposals in the new Bill with regard to the central authority appear to be preferable to the scheme originally put forward; they utilise the existing machinery, while at the same time they facilitate its modification so far as may be found necessary to adjust it to the new functions which it will have to fulfil. Another important point in which the present Bill shows an improvement on its predecessor is with respect to the definition of mental deficiency. The difficulty of framing a definition, scientifically accurate, and also suitable for adoption in an Act of Parliament, is quite as formidable in the case of feeble-mindedness as it has notoriously proved to be in the case of insanity; and the attempt made in last year's Bill to construct a fitting formula for the purpose was hardly attended with such success as would encourage further effort in this direction. The difficulty is met to some extent in the present Bill by including in the definition clause a specific reference to the several categories of defective persons who are liable to be dealt with under the compulsory powers of the Act, as, for instance, defective persons who become amenable to the ordinary criminal law or to the special legislation for inebriates. In this connexion it may also be noted that occasion has been taken to repair a rather remarkable omission in the former Bill by adding a clause requiring that there must be a *medical* examination before an order is made under the Act.

While the provisions of the Bill may, in a general view, be regarded as sound and well-considered, it may be questioned whether the administrative machinery which it proposes to set up will prove to be adequate to the amount and complexity of the work that it will have to do. This doubt will be felt more particularly with regard to the medical representation on the Board of Control, which, as the Bill stands at present, is left at the same strength as on the existing Lunacy Commission. It is, however, notorious that the number of medical Commissioners in Lunacy is even now absurdly insufficient for the heavy and responsible duties which they are required to perform in the supervision of the certified insane; and it is barely reasonable to expect that these hardly worked officials are to find additional time in which to organise and carry out the details of a novel, and to some extent an experimental, policy. And these considerations will appear still more cogent when it is borne in mind that the duties which will devolve on the Board of Control in connexion with the feeble-minded will not be simply duties of supervision and inspection, as are in a great measure the duties of the Commissioners under the Lunacy Acts. The provisions of the Mental Deficiency Bill already indicate that the central authority will have to deal regularly with questions as to the propriety of discharge or continued detention in the case of individual defectives—that is to say, with what are virtually questions of diagnosis; and it is safe to predict that this tendency will become stronger as time goes on. For mental defect, unlike acquired insanity, is by its nature a permanent condition, and it is a condition, moreover, which lacks those distinctive symptoms that furnish the ordinary data for certification. On account of these two characteristics the procedure in the case of the defective cannot be the same as in the case of the lunatic. Hence it may be foreseen that, for the avoidance of the confusion which would inevitably result from personal and local divergences of practice, it will very soon be found necessary to establish definite criteria by which the existence and degree of defect may be ascertained, and any such system will presumably imply the intervention of a central authority with expert knowledge, which would naturally be provided by the medical element on the Board of Control. Though such an evolution may not be contemplated by the framers of the present Bill, its probability will be obvious enough to those who have had practical experience in dealing with the feeble-minded; and it might be preferable that provision should be made for this development at the outset, instead of waiting for conflicts of doctrinal opinion and disputes as to procedure.

The Milk and Dairies Bill.

IT is almost superfluous at this date to recall the grounds on which legislation is required to secure a purer milk-supply in this country. The exact proportion of the milch cows in England which are tuberculous cannot be accurately stated, but if it were only one in a hundred, which is certainly an underestimate, it represents a danger of the first magnitude to a host of children, and probably to a not inconsiderable number of adults also. Not a year passes without evidence, from the investigations made by medical officers of health and bacteriologists, of outbreaks of other infectious diseases, such as scarlet fever, enteric fever, and the sore throat associated with mastitis of the cow, which have been caused by the infection of the original milk or its subsequent contamination. The domestic boiling of milk, which would destroy the bacilli of these diseases, has been advocated by sanitarians for half a century, but the fact must be faced that few people will do it, and the nation as a whole is not likely to abandon its preference for milk in the uncooked state. If a census could be taken of the households of medical men in the country—or even of medical officers of health alone—we should be surprised if habitual boiling of milk was found to be the rule and not the exception. The proposal that all milk before delivery to the consumer should be required by law to be pasteurised is open to several serious objections, while it would be almost impossible to check the efficiency of the processes adopted. The supply of milk, therefore, must in the public interest be protected from specific infections, and ought also to be safeguarded against the great variety of potentially dangerous contaminations which it so often receives in the course of its journey from the cow to the customer. There are few sanitary matters of which this country has so little cause to be proud as the methods which are so commonly adopted in the storage and conveyance of milk. Only indifference resulting from long familiarity with bad habits can explain the continuance of the entirely unnecessary dirt contamination which is so often witnessed when milk churns are conveyed by rail or taken through the streets on the milk round; and here also the result is shown in a toll of infant life, particularly from epidemic diarrhœa. Further, it is well known that much systematic sophistication of milk takes place, favoured by the ease with which penalties can be evaded by the defence of "warranties," and that in this way a widespread impoverishment of this most important part of the food of the people is brought about.

It is now universally acknowledged that the various Acts and Regulations under which impurities and infections of milk can be controlled are inadequate in themselves and are very unequally administered, and that in this respect the provisions of the several Public Health Acts, the Infectious Disease Prevention Act, and the old Contagious Diseases of Animals Acts, need to be revised, strengthened, and consolidated in a single enactment. This reform, which is demanded on behalf of the public by those authorities who at present are responsible, has also been strongly urged of late years by the more far-seeing section of the milk industry. The Government have long been understood to be pledged to new legislation; but it is unfortunately true that for some years past their performance in the matter has been regrettably feeble. The situation seemed changed for the better towards the end of the last session of Parliament, when Mr. JOHN BURNS introduced a new Milk and Dairies Bill, apparently with the object of making its provisions known in advance, so that real progress could be made with it in the present session. This Bill, which we discussed and welcomed in our issue of Dec. 21st last, has now again been formally introduced, and we trust that Mr. BURNS will not omit any effort to secure its passage, and thus remove what has threatened to become a standing reproach to the central public health department over which he presides. The Bill in its main lines seems to have met with approval, though some of its clauses have received considerable criticism from medical officers of health and the different local authorities which will be concerned in giving it effect. The principle of relegating to future departmental regulations important matters such as the control over the sanitary arrangements of cowsheds and the cleanliness of milking, the system of registration of dairies (which in the Bill include not only dairy farms and cow-byres, but also milk shops and other premises where milk is obtained or stored), and the details of their inspection, has, we are glad to note, received general acceptance. Departmental regulations can be varied if they are found unsatisfactory in experience, and no new measures of reform in connexion with such a complex and important industry as the milk trade can be so perfect as not to call for fairly frequent adjustments in practice. The principal objections which have been urged to the Bill relate to the choice of the executive authorities that has been made. The Bill places most of the administrative duties on district councils and county councils concurrently, the latter authority having supervisory powers, but in "rural" districts the county council is to act to the exclusion of the district council for certain purposes, such as making investigations into complaints that infectious disease has been caused by milk sent out of the district, and making orders to stop the sale of infected milk. County medical officers of health, if we may judge by a recent contribution to *Public Health* by Dr. W. G. SAVAGE, see many difficulties in taking responsibility in a sort of patchwork over their counties. On the other hand, whole-time district medical officers of health, especially those who act for combined areas, have pointed out that they could themselves exercise the necessary supervision and control more efficiently than is practicable at a county centre. This contention has been forcibly expressed in the case of the eastern portions of Surrey by Dr. A. E. PORTER in his annual report for the Reigate district. It must be realised, however, that when the new Order of the Board of Agriculture relating to the slaughter of tuberculous cattle, with a view to compensation, has taken effect next month a strong reason will be furnished for control being exercised in health matters by the same authorities which carry out the veterinary work.

Criticism has also been expressed of the proposed repeal of the "milk clauses" in several local Acts which gave the health authorities power to trace infected milk back to the farm in the country and stop its supply to the city. It has been contended that these powers should remain at any rate for a few years after the passing of the Act, until these cities are satisfied that the county supervision is adequate. At a recent discussion at the Royal Sanitary Institute Mr. HERBERT JONES drew attention to the invidious position in which medical officers of health may be placed in carrying out their duties under the Bill, and it is suggested that clauses should be added to provide for security of tenure of district medical officers of health, analogous to those relating to county officers which were introduced a few years ago into the Housing and Town Planning Act. We trust that the Bill will be given its second reading as soon as possible, so that these and similar matters of administrative detail may be fully dealt with in committee. As we before have pointed out, it is in favour of the prospects of the Bill that in several points it already represents a working compromise between the more extreme demands of public health administration and the opposition which was at first made in the interests of the milk industry, and critics on both sides may now do well to remember that the best is sometimes the enemy of the good.

Unexpected Recoveries from Insanity.

THE cases which Dr. LEWIS C. BRUCE, of Murthly Asylum, records in another column of THE LANCET present features to which it may be well to direct attention. In one case a confirmed epileptic of many years' standing was apparently cured—in so far as an interval of eight years of freedom from seizures may be said to constitute a "cure"—by the withdrawal of 40 c.c. of blood from the median basilic vein once a week for six consecutive weeks. In the second case, a patient with cyclical insanity of manic-depressive type, it was discovered that her blood contained a specific agglutinin to a variety of streptococcus obtained by Dr. BRUCE from the blood of another patient who suffered from acute mania. By feeding the former on living cultures of this streptococcus a striking improvement set in, and whereas prior to the date of treatment—October, 1905—her attacks of insanity occurred every year, and sometimes frequently in the year, from that time to the present there has been no relapse. A third case is that of a patient with what appeared to be chronic delusional insanity, who contracted scarlet fever, and in whom convalescence from the fever was accompanied by complete disappearance of the delusional symptoms. For three years she has been quite well. The fourth case is that of a patient with delusions of identity, a morose, impulsive, absolutely intractable woman, to quote Dr. BRUCE'S own words, who after four years of this condition suddenly became unconscious one day, developed a right hemiplegia with aphasia, followed by high irregular fever, and when, some five weeks later, she had recovered to a great extent from the effects of the "stroke," it was found that her mental condition was entirely normal, apart from a complete retrograde amnesia for the events of the preceding four years. She was discharged recovered, went into service, and has apparently kept in good health since—i.e., for almost five years.

Each of these four cases presents points of interest, and three of them have this in common, that an alteration in the psychical state was effected through the agency of another form of disease. The case of recovery of a maniacal patient after being fed by streptococci presents difficulties; the technique here must be above reproach, and other experiments with every precaution against error would be advisable before any conclusions are drawn from it. Further, it is possible that in the last case narrated the intercurrent disease was not cerebral hæmorrhage, as Dr. BRUCE is inclined to think, but encephalitis; in other words, a toxi-infective condition. The fever, which was one of the notable symptoms, is in favour of such a diagnosis, while the age of the patient (27) is somewhat against the likelihood of hæmorrhage. However, be this as it may, the case is of great interest. It is fairly well recognised that the incidence of an intercurrent affection may have a curiously ameliorating action on the course of a pre-existing disease, and instances will no doubt occur to the reader. We know of a patient suffering from a well-established delusional insanity who, in suicidal mood, threw herself out of a window, sustained a fracture-dislocation of the lumbar vertebræ, and from that date her mental symptoms vanished and have not returned. It is difficult to appreciate the real meaning of such a course of events; the difficulty is not, perhaps, so great in cases where the morbid process that supervenes is definitely toxic or toxi-infective, as in various recorded examples, and in one or two of those given by Dr. BRUCE. Nor need there be any insuperable difficulty in explaining the interesting amnesia of the fourth case of Dr. BRUCE, for if an ictus, such as a blow on the head, can occasion a retrograde amnesia, there seems to be no valid reason why the ictus of a sudden hæmorrhage or encephalitis should not be capable of producing a similar result in a particular case. We have heard of an old gentleman noted for his devoutness and religious nature who, ever since an attack of right hemiplegia without aphasia, has had the greatest difficulty in retaining or expressing his conceptions of the Deity, and admits that to his distress he seems to be unable to recall the familiar truths of his religion.

It is well that the profession should hear of such instances as Dr. BRUCE records, for they serve to show how alterations in what were once thought the intangible and inaccessible realms of the insane mind can be brought about by definite encephalic processes. We cannot agree with those who would limit the possibilities of cerebral localisation; after all, if a cerebral tumour can effect changes in a man's disposition, character, and temperament, then these features of his psychical "make-up"—to employ a useful if colloquial Americanism—must have some anatomical substratum, and we welcome all evidence that will aid in the elucidation of the interrelations of the two. To lay too great stress on scanty data would be injudicious; nevertheless, it is equally a mistake to ignore them Dr. BRUCE'S cases further illustrate the startling nature of some recoveries from a condition of insanity—recoveries not merely unexpected, but previously regarded as quite improbable. And the same may be said for the remarkable recovery described in a letter this week by Dr. J. BATTY TUKE. Such cases indicate, it must be confessed, our comparative ignorance of the nature of not a few pathological mental states, but their suggestiveness will be noted by the alienist and physician.

ROYAL INSTITUTION. — On Tuesday next (April 15th) at 3 o'clock, Professor W. Bateson delivers the first of two lectures at the Royal Institution on the Heredity of Sex and Some Cognate Problems, in continuation of those delivered before Easter. The Friday evening discourse on April 18th will be delivered by Dr. T. M. Lowry on Applications of Polarised Light; and on May 2nd by Mr. H. G. Plimmer on Blood Parasites.

Annotations.

"Ne quid nimis."

THE CONTROL OF PETROL.

IN 1908 *a Departmental Committee was appointed to* inquire into the sufficiency of the existing regulations relating to the storage, use, and conveyance of petroleum spirit, and to report what further precautions, if any, were in their opinion desirable as tending to diminish the dangers attendant thereon. In 1910 the committee presented their first report, but certain evidence was not forthcoming; this, however, has since been obtained, and has enabled them to present their final report which was issued last week. In this report provisions are recommended in regard to the conveyance of petroleum spirit by road, and further powers, it is suggested, are to be conferred upon harbour authorities in connexion with making by-laws under the Petroleum Acts. It is also recommended that, generally speaking, the provisions of existing Acts—to wit, the Petroleum Act of 1871 and the Explosives Act of 1875—should be more strictly enforced by local authorities. In regard to the conveyance of petroleum spirit in the river Thames, in particular (to the dangers of which considerable attention has been drawn), the committee uphold the views of the Port of London Authority that tank steamers shall not be allowed above Thameshaven, although they have decided to allow greater facilities for the conveyance of petroleum spirit up the river in licensed tank barges, by increasing the capacity of the barges and by allowing self-propelled barges having engines of a certain type. Recommendations are also made with respect to the safe storage of petroleum for trade purposes and to the domestic use of petrol. The use of petroleum spirit hair-washes in hairdressing establishments should, in the opinion of the committee, be prohibited, and it should be made illegal, they add, to use petroleum spirit or mixtures containing it "on the hair of the living subject." It should be made illegal, they also think, to allow any petroleum spirit to escape into any inlet or drain communicating with a sewer. As regards the keeping of petroleum spirit for use in motor vehicles, no great change appears to the committee to be necessary. It is suggested, however, that a certain regulation should be amended allowing of two spare tins being carried on a motor-car without notification to the local authority, and that a regulation should be added making it compulsory to keep a supply of dry sand or some suitable substitute in every storehouse or garage. As a whole, the report seems to present useful, temperate suggestions, inflicting no hardships, while at the same time offering better protection both of person and property from a highly inflammable material, the increasing use of which is a feature of modern times.

MEDICAL EXAMINATIONS IN SWITZERLAND.

THE regulations for the Swiss medical examinations of 1877 and 1886 have been completely revised. The new regulations, dated Nov. 29th, 1912, come into force for the first time this spring. The examinations still take place at the principal university towns—Basel, Berne, Geneva, Lausanne, and Zürich—and are conducted in German or French (Lausanne and Geneva) (The innovations in the new regulations are marked in italics.) Only persons who have passed the Swiss Matriculation Examination are admitted to the three medical examinations—first, second, and final. The successful passing of the final examination provides the candidate with a Swiss Federal diploma and admits him to practise in any canton of Switzerland. The M.D. examination is separate, and has solely an academical or scientific value. The first medical examination is oral and deals with four subjects—viz., physics, organic and inorganic chemistry, botany, and zoology. (*Foreigners with recognised diplomas can be exempted from this examination.*) The subjects of the second examination are anatomy, histology, embryology, and physiology, and it is partly practical (dissection), partly oral, and partly written. Admission to the final examination is granted after 11 half-yearly terms of study, six of which must be spent in Switzerland. One-half year's attendance at a recognised hospital can replace one-half yearly term of study. The candidate must give proof of having attended the medical, surgical, and obstetric cliniques for two terms; the *children's* and ophthalmological *cliniques*, the medical and surgical out-patient department, the mental hospital, and the *oto-laryngeal clinique* for one term. The candidate, in addition, must pass practical and theoretical examinations, the latter both oral and written, in the following subjects: pathological anatomy, internal medicine, surgery, obstetrics and gynæcology, ophthalmology, *pædiatrics*, *dermatology and neurology*, mental diseases, hygiene and *legal medicine*. There is also an oral examination in the *surgery of accidents* (*Unfallkunde*) and materia medica. For written examinations four hours are allowed; the spoken examinations generally last half an hour for each candidate.

MARCH AT HOME AND ABROAD.

MARCH lived up to its reputation for boisterous winds. Gales on various parts of the coast were very frequent, and sometimes unusually severe, while high squally winds and even gales were not uncommon over inland districts. The main direction of the wind, however, was from some point of the compass between south and west, and the atmosphere was consequently less dry than during the proverbial March, and the temperature rather high. There were, nevertheless, no very warm days such as sometimes occur during a March with a much lower mean temperature. Maximum readings above 55° were seldom experienced even in the warmest portions of the kingdom, although the thermometer mounted to between 50° and that figure on the majority of days. Night frosts were few and rarely severe; in the Midlands and North of England there were only about eight occasions when the screened thermometer descended below 32°. At the Kew Observatory frost was recorded on six nights, the lowest temperature being 28°, but the mean minimum for the month was no lower than 37°, or 1·5° above the normal. On 20 afternoons the maximum temperature was above 50°, and the mean value 51°, or rather more than 2° above the normal. Ordinarily March is one of the driest months of the year, but with the prevailing wind current in the south-west the period under review was an exception. At Kew, where a normal March gives rain on 13 days, more or less rain fell on as many as 20. There were, however, no very heavy downpours, and the aggregate fall of 2·14 in. only exceeded the average by 0·55 in. A very bright day was as rare as a dry one, and the total duration of sunshine fell short of the normal. At Kew, where the average for March is 109 hours, there were no more than 87 hours, and on no less than 12 days there was either none or less than an hour. The greater part of the midlands and north was appreciably colder than London, as well as more rainy, but not everywhere so dull. At Nottingham the mean minimum was only a trifle lower, but the mean maximum was 1·5° lower; and the total rainfall, which fell on as many as 22 days, yielded 3·42 in., exceeding the average by 1·83 in. In spite of the many rainy days, however, the sunshine at Nottingham was five hours more than at Kew. At Bath the mean maximum temperature was a fraction of a degree higher than at Kew, but the mean minimum was more than 1° lower. As at Nottingham, there were 22 days with rain, and the total fall of 3·42 in. exceeded the average by 1·37 in. The sunshine record was 21 hours less than usual, but the total of 98 hours was better than that of Kew. In the extreme south-west of England the weather was more rainy than in the south-east, but also brighter. Newquay had 23 days with rain and the large total of 4·67 in., while the sun shone for as many as 121 hours, exceeding the Kew total by more than an hour per day. The temperature at Newquay was far more equable than at places in the east and centre. The mean maximum, 50°, was only 10° higher than the mean minimum, while further west still, at the Scilly Isles, the corresponding figures were 51·3° and 42·0°. At Scilly there was considerably less rain than on the nearest parts of the coast, but more cloud, the aggregate sunshine amounting to 113 hours—eight hours less than at Newquay. Practically all parts of the Continent were much drier than this country. At Paris rain fell on 10 days only, giving a total of 1·66 in. The French capital was also warmer both at night and during the day than Kew, having a mean maximum temperature as high as 55°, and a mean minimum no lower than 38°. There were, however, in spite of the few rainy days, many more cloudy ones than is general in March. The total sunshine, 97 hours, was only ten hours more than at Kew, and many hours less than on the south-west and south coast of England. At Berlin rain fell on ten days, yielding a total no higher than 1·38 in., while the temperature, at first low, subsequently increased very decidedly, until at the end of the month it touched a maximum as high as 73°, a figure several degrees higher than any recorded at Paris, Biarritz, and Nice. The mean of the maxima, 52°, was not very high, and the mean minimum, 36°, was lower than at Kew. On the Riviera the greater part of the month was bright and dry, but some heavy rain fell during the latter half. At Nice the temperature seldom fell below 40° at night, and occasionally rose to above 60° during the day. The mean maximum equalled 58° and the mean minimum 43·5°. In the south-western corner of France, as represented by Biarritz, the temperature was more variable. Slight frost occurred on the 9th, while maximum readings above 60° were more numerous than at Nice. The mean of the maxima was as high as 59° and the mean of the minima 43·3°. Like Paris and Berlin, rain fell on ten days only, all during the latter half of the month, and except quite at the end the falls were slight or very moderate. At Madeira there was rain on only one day, and even an overcast sky was a rarity. The temperature, both during the day and night, showed a gradual upward movement compared with the previous month. The mean maximum was not far below that of June in London, the figure being 66° and the mean minimum 49°.

ANEURYSM OF THE SUPERFICIAL PALMAR ARCH.

IN the *Revue de Chirurgie* for March M. Jules Regnault and M. Bourrut-Lacouture, of the Naval Medical School, Toulon, have collected a series of records from the literature of aneurysm of the superficial palmar arch, amounting to 26 cases in all; to this they add another from their own experience which presented some interesting features. The patient, a gunner, aged 37, was healthy and free from syphilitic infection. In August, 1910, he was obliged to strike his gun heavily several times with the palm of the hand; this caused sharp but transient pain. Three weeks later a swelling of the size of a pea was noticed in the palm, and tingling sensations developed in the third and fourth fingers. These soon disappeared, so that the swelling ceased to attract much attention, though it increased in size. When he came under the writers' observation in the following May the swelling was as large as a good sized hazel nut, it lay in the upper border of the left hypothenar eminence and pulsated distinctly. When pressed upon it creaked faintly, like snow, and on auscultation a soft bruit was heard. The skin covering it was not discoloured or altered in any way, and there were no discoverable pressure effects. Under local anæsthesia the sac was exposed and removed, the wound healed by first intention, and no trouble followed. Comparing this method with others employed by other surgeons in cases previously reported, M. Regnault and M. Bourrut Lacouture conclude that extirpation is the plan of choice, compression is ineffective in most cases, ligature may fail through the presence of free anastomoses, injection and galvano puncture introduce dangerous elements without promising success and the same may be said of simple incision. Aneurysm of the superficial palmar arch is apparently always traumatic in origin; the artery, though efficiently protected, lies in a region which is exposed to injury. In most cases the trauma has taken the form of an open wound, but in several, as in that under consideration, it was in the nature of a contusion, and constitutes an occupational accident. In one such the patient was a cab-driver, and the development of the aneurysm was ascribed to prolonged irritation by the reins and whip, another patient was an engine driver, whose aneurysm originated in a single heavy blow with the palm of the hand on an obstinate lever. The case recorded by M. Regnault and M. Bourrut Lacouture is therefore important, not only from the clinical, but also from the medico legal point of view.

THE DIFFICULTIES OF PUBLIC HEALTH ADMINISTRATION

SOME striking criticisms of the way in which sanitary matters are dealt with in Ilford are expressed by the medical officer of health of that place in his annual report for 1912. Mr. O. F. Stovin refers in detail to a number of restrictions which the district council has lately placed on his work, and considers them so harassing and to have caused so much friction that he invites the council to agree to asking the Local Government Board to hold a full inquiry by one of its inspectors into the system of sanitary administration of the district. The council, in their turn, appear to have asked the sanction of the Local Government Board to the determination of Mr. Stovin's appointment as medical officer of health, school medical officer, and medical superintendent of the isolation hospital, and it may be anticipated that the whole dispute, which is attracting much local attention, will soon come under official investigation. Mr. Stovin asserts that a continued effort has been made to support the authority of the sanitary inspector against the medical officer of health, both in regard to the control of the subordinate officers and in connexion with drainage matters. Ilford is one of the large urban districts of outer London, with a population now estimated at 83,080, and the number of inhabited houses has increased from 7649 in 1901 to 16,856 in 1911. It is at present the duty of the council's surveyor to supervise the drainage of new buildings, and afterwards all redrainage works come under the public health department. So far as concerns the latter department, Mr. Stovin states that "of 277 houses during the last three years where a drainage nuisance was believed to exist, and a notice had been served to open up the drains for inspection, 277, or 100 per cent., had been found in a defective condition and required redrainage," all these defects having been discovered as a result of complaint or arising out of visits for infectious disease. After this it is not surprising if Mr. Stovin's suggestion that the house drains of the district should be systematically tested has met with opposition from persons interested in house property and building. The matter, however, seems one of more than local importance. Those who have experience of public health work in our large towns are only too familiar with the mischief which has been caused by the faulty construction of houses and house drains in past years when by laws were not in existence or were not observed and are well acquainted with the enormous burdens thrown upon the rates and individuals when the defects have to be put right. If the same kind of construction is being allowed to go on unchecked at the present day in a new district within seven miles of London the facts ought to be known and the cause fully investigated. The further developments of the dispute will be watched with interest.

BISMUTH POISONING

LITTLE information is to be found in the text-books on bismuth poisoning, though cases can be found in medical literature for more than a century. Probably the reason is that the toxic symptoms were supposed to be due to impurities, such as arsenic and lead. In recent years, since the introduction of Beck's method of treating sinuses by the injection of bismuth paste and the use of bismuth in skiagraphy, cases of poisoning have been more numerous. In 1887 Dalché and Villjean showed that pure bismuth salts were toxic. They gave a dog daily 10 grammes of the subnitrate without observing any ill effect, but when the salt was put on a raw surface of any extent intoxication often followed. They then made experiments by subcutaneous injection. A dog was injected with bismuth subnitrate on 12 successive days. It died on the thirteenth day. Five days before death there was noticed on the gums of the anterior molars a brownish violet, glistening serrated line. This line extended and became superficially gangrenous, presenting softened greyish white plaques surrounded by a brownish violet areola. Spots of the same colour appeared in the mucous membrane of the mouth. Dalché and Villjean also observed two cases of bismuth poisoning in man, characterised by a black line and white diphtheritic membranes on the gums and bismuth in the urine. Thus the most striking feature of bismuth poisoning is stomatitis. In advanced stages the teeth fall out. In the *American Journal of the Medical Sciences* for November Dr. L. M. Warfield has reported the following case. A girl, aged 9 years, was admitted into hospital on Sept. 9th, 1911, complaining of a sore mouth. She had suffered from psoas abscess which was twice incised. In November, 1910, about 2 ounces of Beck's subnitrate paste were injected into the sinus, which promptly closed and no paste was ever extruded. Within two weeks a black line was noticed on the margins of the gums. This had persisted, becoming more or less prominent from time to time. In August, 1911, an ulcer formed on the mucous membrane of the right cheek opposite the second molar tooth. Later, the right side of the tongue ulcerated. On examination the child was found well nourished. The breath was very fœtid, the teeth were yellowish and many of them were decayed. On the gum margins of both jaws, both outside and on the inner and outer sides, was a dark, violet-black line about 1.5 mm. in depth which did not quite reach the free border. The teeth were not loosened. Along the whole right edge of the tongue was a violet black discolouration which in its widest part measured 2 cm. In its centre was a white opaque serrated membrane adherent to the underlying tissues. On the buccal surface of the right cheek were two ulcers similar to that on the tongue. A skiagram of the right lumbar region showed a shadow 10 cm. long and 2 to 4 cm. broad. Evidently almost all the bismuth remained. No bismuth, albumin, or casts could be found in the urine. Gradual improvement took place, and on Feb. 19th, 1912, the tongue and cheek were healed and the breath was no longer fœtid, but the line on the gums persisted. A number of similar cases of bismuth poisoning have been recorded, and also about 20 deaths. From the records a typical picture can be drawn which differs from that of lead or mercurial poisoning. There are three forms: (1) benign, in which a violet-black line is the only manifestation; (2) moderately severe, in which there is more or less acute stomatitis, which is succeeded by chronic stomatitis characterised by discolouration of the gum margins and tattooing of the buccal mucosa; (3) a severe form in which ulceration occurs, secondary infection supervenes, and general symptoms, such as fever, hiccough, vomiting, and diarrhœa, occur. The bismuth line resembles the lead line but differs from it in colour. The urine may be blackish, and frequently contains bismuth and occasionally albumin and casts.

ALTERNATING OXALURIA AND PHOSPHATURIA.

IN the March number of the *Bristol Medico-Chirurgical Journal* notes are given of two cases in which a condition of oxaluria alternated with one of phosphaturia. The first is recorded by Professor F. H. Edgeworth, and is that of a man, 26 years of age, who was subject to attacks of renal colic and hæmaturia, the urine containing large numbers of oxalate crystals and being strongly acid in reaction. Under the influence of a milk diet these symptoms subsided, to recur again when a more generous regimen was allowed. A dose of sodium bicarbonate would cut short an attack, but an excess of the alkali was liable to precipitate the onset of the alternate condition of phosphaturia. This was likewise accompanied by some pain along the course of the ureter, though it was of a duller character than that encountered with the oxaluria. The difficulty thus arising was finally solved by the observation that the occurrence of the oxaluria could be prevented by careful and prolonged mastication of the food taken, being apparently due to digestive disturbance and resulting gastric acidity. The second case, reported by Dr. C. W. J. Brasher, was that of a man, aged 46, irregular in his habits, and especially in the matter of eating. He, too, suffered from attacks of lumbar pain and hæmaturia, with painful micturition and some urethritis without the presence of gonococci. Over-exertion and digestive disturbances were responsible for the onset of the condition. These attacks were always followed by phosphaturia, the urine becoming quite milky in appearance. The oxalates present in the urine are usually derived from the food, such articles of diet as rhubarb, strawberries, and spinach giving rise to large quantities of oxalate crystals in the urine, often accompanied by pain and sometimes by hæmaturia. Indeed, the condition may closely simulate renal or vesical calculus. Abnormal conditions of fermentation in the stomach may at times give rise to an endogenous formation of oxalic acid, with a similar urinary condition; but in either case the formation of actual crystals of oxalate of lime as a sediment in the urine depends less on the absolute amount of the salt than on accompanying chemical conditions, such as the acidity of the fluid and the relative proportions of calcium and magnesium salts contained in it. On the other hand, phosphates are only deposited in alkaline urine, a condition which may be produced by large doses of alkalies given as medicine, while milk diet may lead to the presence of much calcium phosphate in the urine. The avoidance of the urinary troubles by the adoption of a habit of prolonged mastication of the food taken may seem to afford some support to the theory that almost all the evils of life may be avoided by this simple procedure, one drawback to the system being, however, that the greater part of the 24 hours of the day has to be devoted to the chewing process if the strict rules are observed.

CARBOLIC ACID IN THE RAILWAY CARRIAGE.

DESIRABLE as it is to keep the railway carriage free from disease germs, there is no reason why the method adopted should leave behind a smell which is suggestive of the fever ward or worse places, and disagreeable to most people. Yet it is the practice of certainly more than one railway company in this country to use a carbolic preparation for the purpose which leaves behind it the persistent odour of the tar acid. It is not conducive to comfort to spend a long journey in an atmosphere which however suggestive of hygiene is also fraught for many with painful associations, and cannot by anyone be considered elegantly perfumed. And there is no reason why the traveller should be subjected to the nuisance, since the disinfecting process can be done in other ways which should give no offence. Possibly the management of the company consider that in the public view the smell of carbolic acid amounts to a conviction that something really sanitary has been done, and that if no evidence is left behind in the shape of a distinctive smell the company might be regarded as having been neglectful in applying common hygienic measures. We doubt whether the application of chemical germicides in the quantity, perhaps in soaps, which is employed has so good an effect as a thorough airing of the compartment, a careful washing of the floors and window frames, coupled with a good dusting of the cushions, preferably by a powerful vacuum plant. It is fairly certain that the merest traces of carbolic acid, as indicated by the faint but sickly smell which is left behind after the performance of a cleaning process by carbolic preparations, cannot be trusted to keep the air for any practical purpose permanently free from obnoxious germs. Apparently the treatment is reserved for third-class compartments, since the carbolic smell at any rate is seldom observable in the first-class carriage. Of course, the crowded portions of the train are in most need of disinfection, but surely it is not necessary to do this in a way suggestive of lavatory cleansing. If, too, the use of a germicide fluid is insisted upon, there are plenty of agents which would be equally effective, while infinitely more agreeable for the purpose.

FIBROSITIS.

THE discussion which recently took place at the Balneological and Climatological Section of the Royal Society of Medicine[1] on the subject of the affection to which Sir Williams R. Gowers gave the name of fibrositis serves as a reminder that in respect of one at least of the conditions to which the name of rheumatism has been applied our knowledge has become considerably clarified of late. It is to Professor R. Stockman that the accepted views on the pathology of this malady, more commonly known perhaps as muscular rheumatism, are principally due. He has shown that underlying the phenomena of pain and tenderness in the muscles there is a definite anatomical lesion consisting in a development of newly formed fibrous tissue situated in the fibrous attachments of the muscles and in the connective tissue lying between the fibres. Accompanying this proliferation there are also an endarteritis and periarteritis of the nutrient vessels. This suggests that the exciting cause is an irritant conveyed by the blood-vessels, though the actual agent at work has so far eluded observation. Mr. K. W.

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[1] Proceedings of the Royal Society of Medicine, vol. vi., No. 4, February, 1913. Balneological and Climatological Section, Jan. 30th, 1913, p. 27.

Goadby has now endeavoured to supply this gap in our knowledge and to identify the bacterium producing the inflammatory reaction He finds that if cultures are taken from the urine after massage of the affected parts, organisms are obtained corresponding with some of those which are found in septic conditions of the mouth, notably various streptococci, the diplobacillus necrodentalis, and a peculiar organism which gives rise to oat shaped forms, the streptobacillus male If this discovery is confirmed, we have a piece of more distinct evidence than has hitherto been available in favour of the reality of the danger of articular and other lesions said to exist in the subjects of oral sepsis A gouty disposition seems to act as a predisposing cause of the malady, and atmospheric changes and intestinal disorders may excite attacks Muscular over exertion also acts as an exciting cause, though gentle exercise is one of the most effective modes of treatment for the developed condition In the attacks the affected muscles show increased tonus, the foci of inflammation keeping up a condition of irritation clinically evinced in the form of pain and spasm The occurrence of the lesions of this disease in the muscle of the heart is a possible extension of serious import That they may so occur is not yet proved, but Dr James Mackenzie suggests this explanation of certain cases of the disease in which the auricles and ventricles may be found beating at unequal rates, a condition which points to involvement of the conducting bundle of His in some morbid process

THE THYROID TREATMENT OF DUPUYTREN'S CONTRACTION

AT a meeting of the Académie de Médecine of Paris on Jan 14th a new method of treating Dupuytren's contraction of the palmar fascia was described by M Gilbert It consists in the administration of thyroid extract which he has used in 7 cases with 5 favourable results The following is an example In March, 1911, a locksmith was seen for bilateral contraction of the palmar fascia which began eight years before in the left hand and five years before in the right In the right hand there were hard bands, and the third and fourth fingers were flexed on the palm A similar condition was present in the left hand, but the bands were not so hard or prominent After the administration of nine doses of 10 centigrammes of thyroid extract the right third and fourth fingers could be stretched, and after the administration of 39 doses the hand had regained all its power The treatment was discontinued for three months, and there was then a tendency to retrogression On resuming the treatment rapid improvement took place After taking 163 doses all stiffness had disappeared In May, 1912 the patient was working 10 hours daily, and his hands were no longer stiff after work, and the indurated tissue was softening In June (after taking 216 doses) the tissue was quite supple In the other four cases a similar result was obtained The indurated tissues became softened and the function of the hands was regained In the two cases in which the treatment failed the retraction was very marked and the treatment was continued only for a short time These results point to a thyroid origin of contraction of the palmar fascia This view is borne out by the existence in these cases of other symptoms of thyroid deficiency—subacute "rheumatism," pains, headache, alopecia, and œdema, which were also improved by the treatment In connexion with this view of the pathogenesis of Dupuytren's contraction it is interesting that M Amat has described the case of a soldier whom he cured with iodine It is also interesting that a similar beneficial action on other scleroses has been attributed to thyroid extract in some forms of scleroderma and chronic rheumatism M Gilbert's treatment seems worth a trial

Surgeon General William May, C B, has been appointed Medical Director General of the Navy, in succession to Surgeon General Sir James Porter, K C B

THE LADY SEDLEY'S RECEIPT BOOK, 1686, AND OTHER SEVENTEENTH CENTURY RECEIPT BOOKS[1]

BY LEONARD GUTHRIE, M D OXON, F R C P LOND

THE Lady Sedley's Receipt Book is a MS quarto volume bound in vellum The date 1686 appears on the cover, and on the first page is inscribed with elaborate pen flourishes "The Lady Sedley, Her Receipt Book, 1686" It consists of 75 folios containing 140 recipes, of which 124 are medical and the rest are culinary or cosmetic The handwriting on the first 58 pages is good and clear, the lines are ruled and the headings ornamental, every prescription is numbered Towards the end of the book the prescriptions are in different and more illiterate handwriting, which shows signs of haste or carelessness There is no index The book is of some historical interest for the Lady Sedley by whom or for whom it was compiled, was the wife of Sir Charles Sedley wit writer of plays and sonnets, and boon companion of Charles II Their only child was the notorious Catherine Sedley, mistress of James II, and created by him in 1686 Countess of Dorchester

Prescriptions, many of which are endorsed "Probatum est," or "It hath very often been proved" are supplied for major ailments such as dropsy, palsy renal colic, ague, plague, jaundice (black and yellow), bite by mad dog poison, small pox, scurvy, convulsions, gout, consumption, fistula, and rickets There are also prescriptions for piles, gripes, incontinence of urine, cough epistaxis, sore breasts and eyes toothache tetters (or herpes), "rising of the lytes (or lungs) headache, constipation, shortness of breath and "heate of the liver" The "cosmetics" include applications to make hair grow, or to take it away; for the "morphew" or "freckles", for the cure of "a redd face", to make the teeth white, and to help a "stinking breath" Several of the recipes are by such eminent physicians as Sydenham, Sir Thomas Witherley, Sir Edward Greaves, Lower, King, Hintent, and Stephens

Sydenham's prescription is "for the head" and consists of Venice treacle to the 72 ingredients of which he added wormwood, candied orange peel and angelica, and syrup of candied citrons The dose was the quantity of a nutmeg washed down with a diuretic draught of horseradish juniper, and broom Sir T Witherley supplies a "Dyett drinke for the Gout," chiefly composed of sarsaparilla sassafras harts-horn ivory, flints balsam of tolu and some say the has a receipt for scurvy, containing dock roots hartstongue, and dandelion infused in small ale Other remedies for scurvy have in them sea scurvye grass, watercresses, brook lime and the best (for scurvy and dropsy) contains the juice of 12 fresh lemons Dr King is responsible for a receipt for "the griping of the Gutts" "Take a penny loaf and slitt it and toast it and spread it over with Venice Treacle, and dip it in Sack boyled with Cloves Cinnamon and Nutmegg, tye it up in a cloth and lay it hot to the navel" King, Witherley and Lower attended Charles II on his death bed, and King was the physician who bled His Majesty at the onset of his illness with "extraordinary dexterity resolution, and presence of mind or he had certainly died that moment" (Evelyn) The Privy Council voted him £1000 for so doing, which however was never paid Dr Jacob of Canterbury's medicine for the stone is "15 graines of goat's blood in powder, drinke every morning in Ass's or other Milke"

One recipe is introduced with great parade as "A copy to make the sov'reignst water that ever was devised by man which Dr. Stephens, a physician of great cuning and of long experience, did use and therewith did many great cures, and all was kept in secret until a little before his death, when the Archbishopp of Canterbury gat it from him as follows:—Take a gallon of Gascoyn wine, then take ginger, Gallingall Camell, Cinamint, Tollianders, Nutmegs, Cloves, Aniseed of each one dram, then take Sage, Mint, Red Roses, Thyme of the Moor, Pellitory of the wall, Rosemary, wild Marjoram, Pennyroyal, Thyme, Lavender and Avens." All these were to be bruised together and distilled in a limbeck. "The virtues of this water be these: It comforteth the Spiritts Vitall, and preserveth greatly the youth of man, and helpeth the inward diseases coming of cold, and against shaking of the palsey, it cureth the contraction of the sinewes, it helpeth the conception of women that be barren, it killeth wormes in the body, and killeth the cold gout, and helpeth the toothache, it comforteth the stomach very much, it cureth the cold dropsy, it helpeth the stone that is in the bladder, and in the reines of the back, it cureth the canker, it helpeth shortly a stinking breath, and whosoever useth this water ever and anon, and not often, it preserveth him long in good liking, and shall make one seem young a long time." This Dr. Stephens died aged 98, after being bed-ridden for ten years. He was the author of a catalogue of the Oxford Botanical Gardens. It was Archbishop W. Laud (beheaded in 1645) who got the prescription from him, and afterwards presented it to the "Queen's Closet Opened,"[1] and it was subsequently included in "Quincy's Dispensatory" for 1739.

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[1] Abst Society

Sir Edward Greaves, the first medical baronet, contributes a receipt for convulsions containing dead man's skull, peonie roots, amber, and bezoar stone. For "giddiness in the head" Dr. Jacob recommends male peonic root and peacock's dung in powder, with nutmeg and black cherry water. We find several prescriptions for rickets, first described by Whistler in 1645, and in 1650 by Glisson in a lengthy treatise. They are "dyett drinkes" containing figs, raisins, currants, various "anti-scorbutics," such as scurvy-grass, licorish, watercress. In one the constituents are to be infused in "faire water," in another the strongest ale and muscadine are employed. Recipes are also culled from non-medical sources. Thus, the Duke of Monmouth and Judge Ellis give remedies for stone, and the Lady Mildmay an "excellent drink for to cure a fistula; but for 'speedy cure' you may tent the wound or sore, and lay thereon a Colworth leaf." Sir Kenelm Digby's "Aqua Mirabilis" finds a place here, and was incorporated in the "Colledge" Dispensatory. It is an infusion of spices in white wine, and was designed to serve as many purposes as even Dr. Stephens's celebrated water.

On the whole, Lady Sedley's recipes are less loathsome than many of those contained in the London Pharmacopœias of the period, for most of them are simple herbal infusions. The excrement and urine of almost every animal were used in medicine, and Willis himself spoke of infusion of fresh horse-dung as "a vulgar but no contemptible remedy in pleurisy and jaundice," and says that fæces of birds and animals owe their value to the volatile salts which they contain. Besides Dr. Jacob's prescription of peacock's dung and peonie for giddiness, Lady Sedley gives infusion of fresh sheep's ordure in Rhenish wine for "black jaundice." Full directions are also supplied for making "Snayle water," distilled from snails and earthworms, and for "Oyle of Swallows," made by pounding in a mortar young swallows just able to fly, boiling them in fresh butter, and straining the result for use in cases of contracture of sinews. Dr. Hintent's preservation against plague consists in forming an issue on the inner side of the left forearm "for the purgeing away from the heart all evil humors which causeth the infection of the Plague." There are several "Plague Waters," all of which contain ginger and some spices which would impart a sensation of warmth to the epigastrium, and thus inspire persons in dread of contagion with faith in the efficacy of the remedy. For small-pox several posset drinks are prescribed with the direction, "Give no medicine when they break otherwise than to wash the eyes and throat with Rose water."

Other MS. Receipt Books of the Seventeenth Century.

The Lady Sedley was not singular in compiling her "Receipt Book." Probably many such are hidden away in the libraries of old country houses. Several interesting examples of the kind are in the MS. department of the British Museum. The most important of these are by Mary Doggett and Lady Ranelagh. "Mary Doggett, Her Book of Receipts," 1682 (Sloane 27,466), large 4to, folios 307, is beautifully written and contains both medicinal and culinary recipes. A MS. note on the first page states that "this Mary Doggett was the wife of Doggett the Player, who left a legacy of a yearly coat and badge to be rowed for." The competition for Doggett's coat and badge by Thames watermen still takes place in August annually, and was inaugurated by Thomas Doggett in 1716.

"The Lady Ranelagh's Choice Receipts, as also Some of Captain Willis's who Valued them above Gold" (Sloane 1367), is a long narrow volume containing 83 folios and 292 recipes. The handwriting is small and cramped, but legible. Like the others, it contains medical, culinary, and cosmetic preparations. At the end there are alphabetical lists of herbs and their virtues, an index to recipes, and also a list of symbols for different drugs, and of "our own abbreviations." The book is undated, but was probably written between 1670 and 1680. Lady Ranelagh was a daughter of the Earl of Cork, sister of Robert Boyle, and of Mary Countess of Warwick. Of Lady Warwick (1625–1678) we are told in a funeral sermon by her chaplain, Dr. Walker, that "if any were sick or tempted, or in any distress of body or mind," they would go to "the good Countess whose closet or still house was their shop for Chirurgerie and Physick." Elizabeth Walker (*née* Sadller), the wife of Dr. Walker, chaplain to the Warwicks, "had a competent measure of knowledge both in physick and chirurgerie," partly obtained from her brother-in-law, "a very able doctor of the London College; and also from her studies of Riverius, Culpepper, and Bonettus." She had "good store of vomits, purges, sudorifics, cordials, pectorals; almost every kind of syrups, strong and simple distilled waters, several quarts of which she left (yea, gallons of which she used most) which it is a pity should be lost" ("Holy Life of Mrs. El. Walker," by Anthony Walker, 1690). Probably these three learned ladies collaborated in producing "Lady Ranelagh's Book of Receipts."

Another MS. (Sloane 556) is "A Booke of Medicens collected, being most of them proved Medicins to healp, written by Mr. Anthony Lewis the 20th day of January 1696 out of a booke which was the La. Marquies Dorsetts." It includes medicine, cookery, and farriery. Anne, daughter of the Earl of Cumberland, married first Richard, Earl of Dorset, and secondly Philip, Earl of Pembroke in 1675. A portrait painted of her during widowhood provides her with two recipe books, and another, painted when she was 13, contains a large assortment of learned volumes. In "Home Life of English Ladies in the 17th Century" (1861) there are many examples of noble ladies who spent most of their time in practising medicine and surgery on their poorer neighbours. Marvellous were the cures of the Countess of Arundel (1557–1630). She turned her house into a hospital, and received patients from places distant 30 or 40 miles. "In some years three score dozen sheepskins were spent merely in making the plaisters she gave, and above 1 cwt. of one matter only, whereof some were made" ("Life of the Hon. Lady Anne Countess of Arundel," by H. G. F. Howard (Duke of Norfolk), 1857, p. 213). Lady Maynard, according to Bishop Ken, who preached her funeral sermon in 1684, "was a common patroness to the poor and needy, and a common physician to her sick neighbours." From Lady Anne Halkett's Autobiography (Camden Society, 1875), 1622–1699, we learn that she was addicted to medical pursuits, and so also were Lady Vere of Kirby Hall and many others of the same period.

It is highly probable that these aristocratic amateurs in medicine were not altogether popular with the faculty, and this accounts for Sydenham's rather ungracious remark: "Nowadays every house has its old woman a practitioner in an art which she never learnt, to the killing of mankind." Dr. Walter Harris also complained of "the cordials which her Ladyship exhibits promiscuously in every disease with very great applause, for be the event what it will, the cordial to be sure must never be blamed" ("De morbis acutis infantum," 1689).

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[1] So stated in the index of authorities in the "Queen's Closet Opened." But as Laud was beheaded in 1645 it follows that either the compiler of the index made a mistake, or that Lady Sedley was incorrect in saying that Stephens divulged his secret to the Archbishop "a little before his death."

Printed Receipt Books of the Seventeenth Century

Many of the recipes coaxed or stolen from physicians, or handed down for generations from one to another, found their way into print in the seventeenth century The first of these is by Elizabeth Grey, Countess of Kent, 1581–1651 It is entitled "A choice Manual of rare and select Secrets in Physick and Chyrurgerie, collected and practised by the Countess of Kent (lately dec'd)" Although this book went through 19 editions it appears to be rare, for no copies are to be found in our London medical libraries The earliest in the British Museum is the second edition, edited by W Jar in 1653

"The Ladies Cabinet Enlarged and Opened, containing Many rare Secrets and Rich Ornaments of several kinds and different Uses, Compiled under three general heads — (1) Preserving, Conserving, Candying, etc , (2) Physick and Chyrurgery, (3) Cookery and Housewifery, whereunto added Sundry experiments and Choice Extractions of Waters, Oyles, etc Collected and practised by The late Right Honourable and learned Chymist The Lord Ruthven," is a pretty little 12mo book, the second edition of which was published in 1655 It therefore precedes the "Queen's Closet Opened," which Dr Oxford tells me was first published in 1657 "The Queen's Closet Opened Being Incomparable secrets in Physick, Chyrurgery, Preserving, Candying, etc , which were presented to the Queen by the most experienced Persons of the times, many whereof were had in esteem when she pleased to descend to private Recreations" is divided into three parts (1) "The Pearl of Practice," (2) "The Queen's Delight,' (3) "The Compleat Cook" A table of authorities gives the names of 25 physicians several surgeons, an oculist, and a large number of Royal and titled persons who contributed medicinal and other recipes

"The Ladies Dispensatory, Containing the Nature, Virtues, and Qualities of all Herbs and Simples usefull in Physick, reduced into a Methodicall Order, for their more ready use in any Sicknesse, or other accident of the Body, the like never published in English," is by Leonard Sowerby and was published in 1652 The author says in his preface that it is based on the works of Dioscorides, Gerard, Gorœus and Fuchsius At the end there is an alphabetical index or "Table of the Virtues of the Simples contained in this Booke" It is comprehensive, for it contains remedies suitable for the treatment of "The Bitings of Shrew Mice," "The Bitings of Crocodiles, and Cockatrices,' "The Venomes of Toades and greene Froggs," and of other reptiles and noxious insects

It is evident from the existence of these popular "Receipt Books" that anyone who chose to collect a sufficient number of "formulas" was considered fully equipped for the treatment of diseases of all kinds And if like Sydenham and *Harris we are inclined to cavil at the claims of noble ladies* to "practise an art which they had never learnt, to the killing of mankind," we must nevertheless remember the woeful plight of therapeutics at the time The simple herbal remedies of the Lady Sedley and her like were harmless in themselves, and not a whit less based on ignorance and gross superstition than many which they prized as bearing the stamp of highest medical authority

Historical Details

A few more details regarding the Sedley family may not be out of place Samuel Pepys makes many uncomplimentary allusions to Sir Charles Sedley's mad pranks and dissolute behaviour In 1663 Sedley, Lord Buckhurst, and Sir Thomas Ogle got drunk at the "Cock" in Bow street, and caused a riot by their grossly indecent conduct, for which Sedley was fined £500 In 1668 he and Lord Buckhurst again scandalised everybody by running about the Strand "sans culottes" On this occasion the King took their part, and Pepys feared that the Lord Chief Justice Keeling would "lay the constable by the heels" for daring to arrest these fine gentlemen Again, in October, 1668 Pepys alleges that the King, Sedley, and Buckhurst were all drunk together at Saxham Pepys, however, admits that with all his faults Sedley was a "mighty witty man" According to his biographer, "the King would never part with Sedley, so he never would part with the King" although "his estate was never the better for the Court," and "his morals much the worse" Charles II liked him because he never asked him for anything, and also "singled him out for the best genius *of the age, and frequently told his familiars that Sedley's* style either in writing or discourse would be the standard of the English language" His published works hardly bear out Charles's estimate of them, but he is still remembered as the author of the charming sonnet, "Phyllis is My Only Joy" His verses are neat, simple in diction, and not quite so coarse as those of Rochester, Buckingham, and in places even Cowley Rochester summed them up appropriately enough as "mannerly obscene" His plays, of which "Bellamira" or "The Mistress" has been accounted the best, are both tedious and licentious

In 1680 Sedley met with an accident thus recorded in the "Hatton Correspondence" (Camden Society, Vol I, *p 216) "Jan 15, 1679 80 Yesterday ye roof of ye Tennis* Cote in ye Haymarket fell down Sr Charles Sidley being there had his skull broke, and it is thought it will be mortall" It may have been partly on account of this accident, or for domestic reasons that Sedley withdrew as much as possible from London after the death of Charles II , but he did not retire from political life Several of his speeches in Parliament as Member for New Romney are included in his printed works A passage from the last of these, delivered in 1699 during a debate on "a Bill for disbanding the Army," will bear quotation It ends "If we are true to ourselves 10,000 men are enough , and if not, 100 000 men are too few" He died in 1701

Catherine Sedley daughter of Sir Charles and the Lady Sedley, was born in 1657 Evelyn described her as "none of the most virtuous but a witt" She was pale, squinted, and was otherwise so plain that Charles II said that he supposed she was prescribed to his brother James by his confessor as a sort of penance However she seems to have exercised a singular fascination over James, and the Protestants made use of the *liaison* for political reasons The climax was reached when she was created Baroness Darlington and Countess of Dorchester, with an income of £5000 a year, on Jan 19th, 1686 This was a deadly insult to the Catholics, and Queen Mary was so furious that she went on "hunger strike" for two days James only *succeeded in persuading her to take food by scourging* himself in her presence The Queen kept the scourge, but the Countess eventually got the money She was, however, ordered to withdraw from Whitehall and advised to pay a visit to Flanders She objected to Flanders on the ground that the 'number of Convents there would render the air too oppressive" and went to Ireland instead But not liking Dublin, she returned to London in August, 1686 James immediately fluttered back to her side, but the reunion did not last long Her political influence was gone, and her income for the time remained unpaid Her father does not seem to have been on good terms with his august "son in law" He was instrumental in procuring the accession of William and Mary, and remarked afterwards that he and James were even for "if he has made my daughter a Countess, I have helped to make his daughter a Queen" In return for Sedley's good offices the countess received a grant of £1500 a year from William and Mary in May, 1691, and in 1703 her original pension of £5000 a year was renewed by a grant of the Irish Parliament She married Sir David Colyear (afterwards Earl Colyear) in 1696, became pious, it is said, and died at Bath in 1717.

Of the Lady Sedley herself, we have little information beyond that which may be inferred from the "Receipt Book ' which she compiled There is a note, however, concerning her in Burnet's "History of My Own Times ' (Vol III , p 114) which is of interest Referring to her daughter, Lady Dorchester, the editor "D" writes 'The best excuse that could be made for her was that her mother Lady Catherine Sedley had been locked up in a madhouse many years before she died" But it is clear that she must have been in full possession of her senses in the year 1686, when her book was commenced As we have seen, the year 1686 marked an important epoch in the lives of the Sedley family, for it coincided with the retirement of Sedley from the Court, and with the social ostracism of the Lady Dorchester The inception of her book suggests that poor Lady Sedley was prepared to welcome the return of her wayward husband and erring daughter to the family fold at Southfleet. Surely, her famous "*Cordialls*" and "*wound waters,*' her cures for ailments of the head, stomach, liver, and kidneys, were designed to patch up the damaged constitution of the one, whilst her face washes, unguents, and cosmetics might serve to impart to the other some of the loveliness which Nature had denied her. Moreover, in order to keep her wanderers to her side, she must feed them well, and hence her excellent recipes for table delicacies. Such reflections lead us to attach a faint tinge of romance to the faded pages of "The Lady Sedley's Receipt Book."

THE MENTAL DEFICIENCY BILL.

THE Bill which the Government hopes to see placed upon the statute book as the Mental Deficiency Act, 1913, has the advantage over its predecessor of having had its subject matter discussed and defined by the House of Commons during last session, and of having had eliminated from it features which were likely to secure for it considerable opposition. For example, it makes no reference to the undesirability of procreation of children by the mentally defective, and the passage which in the former Bill sought to make penal marriage with a defective person, knowing that person to be defective, and also to penalise anyone knowingly solemnising or bringing about such a marriage, has gone. The omissions will be received with mixed feelings even by those who allow their convenience.

Defining Clauses.

The various changes made in the original Bill in committee have been noticed from time to time in THE LANCET, but it will be useful to quote in full the two defining clauses which are now found at the beginning instead of towards the middle of the proposed measure. It will be observed that certain persons, under Clause 1, are to be regarded as mentally defective within the meaning of the Act—this definition was given in our Parliamentary Intelligence last week—but such persons are only to come under the authority of the Act on the fulfilment of conditions prescribed by Clause 2:—

1.—The following classes of persons who are mentally defective shall be deemed to be defectives within the meaning of this Act—

- (*a*) Idiots; that is to say, persons so deeply defective in mind from birth or from an early age as to be unable to guard themselves against common physical dangers;
- (*b*) Imbeciles; that is to say, persons in whose case there exists from birth or from an early age mental defectiveness not amounting to idiocy, yet so pronounced that they are incapable of managing themselves or their affairs, or, in the case of children, of being taught to do so;
- (*c*) Feeble-minded persons; that is to say, persons in whose case there exists from birth or from an early age mental defectiveness not amounting to imbecility, yet so pronounced that they require care, supervision, and control for their own protection or for the protection of others, or, in the case of children, are incapable of receiving proper benefit from the instruction in ordinary schools;
- (*d*) Moral imbeciles; that is to say, persons who from an early age display some permanent mental defect coupled with strong vicious or criminal propensities on which punishment has little or no deterrent effect.

2.—(1) A person who is a defective may be deal with under this Act by being sent to or placed in an institution for defectives or placed under guardianship—

- (*a*) at the instance of his parent or guardian, if he is an idiot or imbecile or is under the age of 21; or
- (*b*) if in addition to being a defective he is a person—
  - (i.) who is found neglected, abandoned, or cruelly treated; or
  - (ii.) who is found guilty of any offence, or who is ordered or liable to be ordered to be sent to a certified industrial school;
  - (iii.) who is undergoing imprisonment (except imprisonment under civil process), or penal servitude, or is undergoing detention in a place of detention by order of a court, or in a reformatory or industrial school, or in an inebriate reformatory or who is detained in an institution for lunatics or a criminal lunatic asylum; or
  - (iv.) who is an habitual drunkard within the meaning of the Inebriates Acts, 1879 to 1900; or
  - (v.) in whose case such notice has been given by the local education authority as is herein-after in this section mentioned; or
  - (vi.) who is in receipt of poor relief at the time of giving birth to an illegitimate child or when pregnant of such child.

Part 2 of Clause 2 further provides for notice being given to the local authority by the local education authority with regard to defective children over the age of 5 years who are incapable of receiving benefit from special instruction, and with regard to children too old to remain at school and needing to be placed in institutions or under guardianship.

Manner of Dealing with Defectives.

The rest of Part I. gives power to deal with defectives in the following manner, and provides the necessary legal machinery for their protection. The parent or guardian of a defective who is an idiot or imbecile or under the age of 21 years may place him in an institution or under guardianship, subject to a certificate in prescribed form from a medical practitioner. A defective subject to the Act may at the instance of one not his parent or guardian be dealt with (*a*) under an order made by a judicial authority on a petition; (*b*) under an order of the court if found guilty of an offence or liable to be sent to an industrial school; (*c*) under an order of the Home Secretary in the case of a defective detained in a prison, criminal lunatic asylum, reformatory or industrial school, place of detention, or inebriate reformatory. A petition seeking an order from a judicial authority in respect of a defective must be accompanied by two medical certificates or by a certificate that a medical examination was impracticable, and by a statutory declaration setting out certain prescribed particulars. The effect and duration of detention orders and of detention not under orders are dealt with in Clauses 10-12.

It may be noted that in Clause 8, which lays down the procedure in cases of defectives guilty of offences, it is provided that when prisoners apparently defective are charged with offences, the police are assigned the duty of communicating with the local authority and of bringing evidence as to the prisoner's mental condition before the court. Provision is also made for the transfer of defectives undergoing imprisonment, or otherwise under unsuitable treatment, to institutions for defectives. By Clause 14 provision is made for taking to a place of safety any person believed to be defective and not properly taken care of, and in cases of suspected neglect or cruelty, a magistrate's warrant may be obtained enabling a constable to make a search and to obtain forcible entry, if necessary, into a house and remove the defective person. In these circumstances the constable is to be accompanied by the medical officer of the local authority or by some other medical practitioner. Transfers from institutions for defectives to institutions for lunatics and *vice versâ* are duly provided for.

Constitution of Central and Local Authorities.

The central and local authorities for the administration of the Act are dealt with in Part II., Sections 19-32. The central authority is to be known as the Board of Control, and is to consist of not more than 15 commissioners, not more than 12 of whom are to be paid, and of the paid commissioners four are to be legal and four medical commissioners, in each case of not less than five years' professional standing. One paid and one unpaid commissioners are to be women. The Lord Chancellor is to appoint the legal commissioners after consultation with the Home Secretary, and the latter gentleman, after consultation with the Lord Chancellor, is to appoint the others. The existing Commissioners in Lunacy are *ex officio* to be members of the Board of Control when the Act comes into force, and the Board is to superintend the supervision, protection, and control of defectives, powers exercisable with respect to lunatics by the Chancellor, Lunacy Commissioners, judge or masters in lunacy, and others, continuing to be so exercised by them except where it is expressly provided otherwise by the Mental Deficiency Act. Express provision thus referred to is to be found in Clause 59, which provides that "all the powers and duties of the Commissioners in Lunacy under the Lunacy Acts 1890 to 1911 shall as from the commencement of this Act be transferred to the Board, and His Majesty may by Order in Council direct that anything which under those Acts is required or authorised to be done by, to, or in respect of, any one or more Commissioners in Lunacy or any officer of those commissioners, shall be done by, to, or in respect of one or more commissioners under this Act or the corresponding officer of the Board. Provided that nothing in such Order in Council shall authorise anything by those acts required to be done by two commissioners, one a medical commissioner and the other a legal commissioner, to be done otherwise than by two commissioners so qualified." The powers and duties of the Commissioners of the Board of Control are defined, and include the supervision, inspection, and visiting necessary to make the Act effective, and the maintenance by the Board of institutions for defectives of criminal, dangerous, or violent propensities. The local authorities for the purposes of the Act are to be, by Clause 25, the county and borough councils for counties and county boroughs respectively, and every local authority is to constitute a committee for the care of the mentally defective consisting of members of the council and other persons having the requisite knowledge and experience The general powers of the local authorities include the ascertaining who within their area are defectives or subject to be dealt with under the Act, and to provide for them suitable supervision, or to secure their being sent to institutions or placed under guardianship, power being given to make provision for guardianship or to maintain the defective person wholly or partly in an institution

Clause 29 defines the duties of the local education authority under the Act with regard to defective children and to the information to be given to the local authority with regard to them

Provision of Institutions, Penalties, &c

Part III of the Bill dealing with "the Supervision and Provision of Institutions, &c, shows that the following classes of institutions are contemplated and provided for ' State institutions," established by the Board for those of criminal, dangerous, or violent propensities, "certified institutions' being institutions maintained for the care and treatment of defectives subject to certification and supervision by the Board, in which are included "approved buildings," provided by boards of guardians for those under their charge, "certified houses,' kept by persons receiving defectives for their private profit, "approved homes, which may be instituted by the managers of any institution for defectives supported wholly or partly by voluntary contributions, or by persons receiving defectives for profit Defective persons who are maintained in certified houses will not receive any contribution to their expenses from money provided by Parliament or from local authorities, and approved homes will not be for any person sent to an institution by judicial order, or by a court, or by the Home Secretary Local authorities, subject to the approval of the Secretary of State, may establish or contribute to institutions, or contract with managers of certified institutions for the reception and maintenance of persons for whom they are required by the Act to make provision The Home Secretary is empowered to make regulations as to the granting of certificates to institutions for their organisation and management and for other matters affecting the reception, discharge, and welfare of their inmates

Part IV of the Bill provides the necessary penalties for infringements of the Act and for offences with respect to the reception, detention, and general treatment of defectives Except in such institutions or places as have been mentioned no one may undertake the care of more than one defective, and where such care of one defective is undertaken notice must be given It will be a misdemeanour for any manager of an institution, owner of a certified house, or guardian of a defective, to detain him or exercise powers over him conferred by the Act after he has knowledge that those powers have expired Among other matters it may be mentioned that suitable provisions are made to prevent the supply of intoxicants to defectives who are being cared for under the Act, to punish ill treatment of them and the abuse of females Offences under the Act may be punished by fine or imprisonment not exceeding two years or upon summary prosecution by three months imprisonment, or by fine not exceeding £50

Due provision is made for the transfer of the staff of the Lunacy Commissioners to the Board of Control, for financial and for other matters Among definitions it may be noted that "relative means a lineal ancestor or lineal descendant of an ancestor not more remote than great grandfather or great grandmother" The Bill does not extend to Scotland or Ireland, and is designed to come into force on Jan 1st, 1914 It is, however, obviously a measure which will take some time, possibly some years to become fully effective We comment upon some of its principle features in a leading article this week

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ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, VENTNOR, ISLE OF WIGHT —The annual general meeting of governors of this hospital will be held at the Whitehall Rooms, Hotel Metropole, London, S W., on Thursday, April 24th, at 3 P M, when matters of importance to the institution will be considered

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ANNUAL REPORT OF THE LONDON COUNTY COUNCIL FOR 1911.

IN THE LANCET of March 15th the appearance was announced of Volume III of this report, which relates to matters of public health[1] In a preliminary article of that date we reviewed Chapter XXXII, which deals, *inter alia*, with the Vital Statistics of London for 1911, compiled by Dr W H Hamer, the county medical officer of health In the present article we deal with Chapter XXXIV, which includes the report for 1911 of Dr James Kerr In presenting this report the Education Committee point out that in July, 1911, the Council decided to place under the control of the county medical officer of health the medical work of the Education Department From the circumstance that Dr Hamer did not enter upon his duties as county medical officer of health until the beginning of 1912 it follows that for the views expressed by Dr Kerr on the medical work of his department in 1911 he alone must be held responsible

Report of the Medical Officer (Education) for 1911.

Dr Kerr's report is an elaborate and comprehensive document of 78 pages It abounds with matter of consummate importance to the rising generation of Londoners In all probability some of the writer's conclusions will fail to obtain universal approval, nevertheless, they are deserving of respect, as the product of his long and unique experience. For the latter reason we believe that the report will be studied with advantage by the large body of school medical officers newly appointed throughout the country

'With this report' says Dr Kerr, 'the series for which I have been responsible during the last ten years is concluded An attempt has been made to lay the foundations of school hygiene as a study of national interest and value on the basis of problems worked out on scientific lines by the staff of the department" Adverting to the circumstance that from the close of 1911 all arrangements for medical treatment have been transferred from the education officer to the medical officer of health, Dr. Kerr acknowledges that the change can be justified, if it is regarded as a first step to the coördination, under one authority, of the sanitary service of the metropolis. Dr Kerr is careful to insist that, in matters of school hygiene, existing knowledge is still far ahead of practice. He expresses the conviction that under present-day conditions schools play only a minor part in the dissemination of the more familiar infectious maladies, and on that account urges what he considers the superior claims of sanitation in the home The stuffy conditions of dwelling rooms and the scarcity of playgrounds he regards as answerable for the excessive prevalence among children of adenoids, as well as of anæmia and debility Observing that school hygiene has already passed beyond school limits, in the wide outlook derived from the study of children there, he rightly declares it a matter of urgent national importance that, in addition to better food and improved opportunities for cleanliness, greater space for living and recreation purposes should be provided for children of school age Particularly instructive to medical officers newly undertaking school work are the sections on medical inspection and treatment, which are ably written, and will repay attentive study

Medical Inspection of School Children

[illegible] 00 children, in round numbers, [illegible] in London during 1911, more [illegible] various kinds and that of these two thirds were recommended for treatment One third of the children were the subjects of enlarged tonsils or adenoids, and four fifths of dental caries Between two and three thousand cases of ringworm came under observation during the year The returns of re inspections of children recommended for [illegible] received treatment [illegible] 4000 unsatisfacto[illegible] under treatment Since 1908 medical inspection has been carried out in all the secondary schools, training colleges, and technical schools of the Council The students are continuously under observation; and in case of illness they are debarred from further residence in the institution. Medical inspection is now regarded as an indispensable and generally acceptable detail of school routine. The masters and mistresses for the most part show keenness and promptitude in obtaining treatment of ailments noted at the medical examinations, and the parents willingly respond to their efforts. Compared with the previous year, the defects found in 1911 show a considerable decrease, the physique of many previously defective children having materially improved.

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[1] This volume includes (1) the Report of the County Medical Officer of Health (2) the Report of the Education Medical Officer, (3) the Report on the Housing of the Working Classes Act. Foolscap folio, pp 193 and lxviii King and Son Price 2s 6d.

Recent experience once more emphasises the contention that good nutrition is essential if the best value is to be derived from tuition. Many of the boys in the "trade schools" improve remarkably under the combination of physical and mental training, but a few of them who come from very poor homes and are insufficiently fed fail to derive benefit. A boy of first-class ability may learn so easily as to get on in spite of a third-class physique. A boy of first-class physique will not be harmed by the endeavour to push on his third-class wits, but a boy of rather poor physique and average intellect will suffer from the strain, as also will those boys who are insufficiently nourished and cared for.

As regards prophylaxis, Dr. Kerr regards the inculcation of habits of cleanliness as a material function of school work. When the want of reasonable opportunities for cleansing is properly appreciated school baths will probably be insisted on as part of the prophylaxis against the lymphatic debility that shows itself ultimately in the shape of adenoids or perhaps of tuberculosis. The reserve powers of children require cultivation. The necessity for free exercise and fresh air proves the want of playgrounds more spacious than those now attached to the schools. If town-bred children are to maintain normal health they must be enticed into playgrounds, and houses will have to be demolished in order to provide the necessary ground-space. Reaction to unhealthy environment is shown by the fact that 30 per cent. of the school children are sufferers from adenoids. Many of these need surgical operations; but, in circumstances existing among school children, even this is unsatisfactory in about two-thirds of the cases. Rational treatment, by preventing ill-health indicated by these symptoms, would involve the use of all means to prevent catarrhal attacks, and to raise the reserve powers of children. Among the chief causes of catarrh in early life are ignorance and dirt. Sufficient air space is the principal need—house room and all that it connotes; school room; free spaces of land for ventilation; opportunity for recreation; the provision of baths and other means of cleanliness. Few people will differ with Dr. Kerr in the opinion that the expenditure of public money on the health of children is of greater national importance than its expenditure on the health of adults.

Medical Treatment of School Children: Enlarged Tonsils and Adenoids.

The treatment of children whose educational efficiency is damaged by dirt, parasites, diseases of the ears, adenoids, or impaired eyesight was begun in London about ten years ago. In a report submitted at the time it was represented to the Council that the treatment of such conditions was then becoming burdensome to the hospitals, and the doubt was expressed whether, even in course of time, this public duty would be efficiently discharged by their means. Our readers know the difficult position which has since ensued, both for the London County Council and the great charities.

Of the cases requiring medical treatment, the children who suffer from enlarged tonsils and adenoids form the majority. Dr. Kerr is of opinion that no teacher should have charge of a class in an elementary school who cannot decide whether or not a child is suffering seriously from this cause. The proportion of children affected in this way varies considerably in different districts and at different seasons of the year. In the Islington schools about one-third of the children were noted by Mr. Cecil Rowntree as having enlarged tonsils or adenoids, and to a serious extent in one-third of these (10 per cent. in all), whilst in 3 per cent. of the total surgical interference was urgently required. Among 1500 children in Chelsea schools 44 per cent. were found to be suffering from enlarged tonsils or adenoids, and surgical interference was reported necessary in respect of not less than 7 per cent. of these. Miss M. H. F. Ivens found among the aliens in the East-end schools that 34 per cent. of those who heard well had "open mouths," whilst of those with discharging ears 78 per cent. were mouth breathers. In many cases mouth breathing persists, even after operation; and among the mentally defective about 50 per cent. on the average are mouth breathers, the habit having been acquired by catarrh in infancy, and persisting from subsequent neglect. As to the results of operation for this condition, the available returns are very disappointing. According to a table it appears that of 400 cases operated upon 237 were returned as unsatisfactory because the mouth breathing persisted. We are told that children are not recommended for operation merely because of the presence of adenoids, but because of such noticeable symptoms as mouth breathing, snoring respiration, nasal discharges, and associated deformities. Two of the cases cited in the report had been operated upon five times for adenoids, and still were not relived because the noses were blocked by hypertrophied turbinals.

And here Dr. Kerr pertinently remarks that "it is not sufficient that provision is made whereby a third of the children who present pathological conditions among the large number with enlarged tonsils and adenoids can be medically or surgically treated ...... while one-third of the children in the schools present conditions which represent a struggle against factors of ill health; the causes must be sought out and removed as a public task. It is not a mere academic inquiry which is now suggested, but a fundamentally important one, which also lies at the root of tuberculosis and other causes of chronic debility."

School Clinics: Examination of Defectives.

Under the Education (Defective and Epileptic Children) Act of 1899 the care and tuition of defective children in special schools were provided for. The medical examination of candidates for admission to these schools is gradually becoming more critical. These examinations, and particularly those of cases presenting special difficulties, constitute a kind of "school clinic." Consequent on the establishment of schools under the Education Act of 1870 the existence was revealed of a considerable number of children who are unable to profit by the education ordinarily provided for them. In 1890 a committee of inquiry nominated by the Charity Organisation Society estimated that 1 per cent. of the children examined were in need of special care and training. The interest aroused by these special schools and by the representations of committees of various societies led to the appointment in 1897 of a special Departmental Committee on Defective and Epileptic Children. This committee reported that "children exist who, on the one hand, are too feeble-minded to be properly taught in elementary schools by ordinary methods, and, on the other hand, are not so feeble-minded as to be *imbecile* or *idiotic*"; and it pointed out that appropriate educational treatment is indispensable for these children. The interest in questions of national physique aroused by the revelations of the South African war and by the reports of the Committees on Physical Education and National Deterioration led to demands for further inquiry, culminating in the appointment of a Royal Commission on Control of the Feeble-minded, the proceedings of which are fully discussed in the present report, to which reference must be made for details.

The Blind and Deaf.

The Education (Blind and Deaf Children) Act of 1893 prescribes the treatment of children whose *sight* is too defective for ordinary schooling. The smallest amount of vision, even if limited to the perception of direction of light, is of some use in life, and should be conserved to the utmost. There is, however, a considerable amount of blindness of such a nature that ordinary schooling is largely lost; whilst education by the usual "blind methods" is of still less value in later life, vision being valuable even in work. Ten years ago a census was made in the schools for the blind. Ophthalmia neonatorum accounted for 30 or 40 per cent. of the blind cases. The disease having at last been made notifiable, blindness from that cause may be expected to fall, in the next decennium, to one-twentieth of its present amount.

Highly important, from the public health standpoint, is analysis of the causes of deafness. Among 874 cases recently reported as deaf, 41 per cent. were returned as congenitally deaf, whilst the cases of acquired deafness amounted to more than half. Among the latter meningitis and other brain diseases accounted for 18 per cent. and acute infectious diseases for over 30 per cent. As a cause of deafness measles is twice as important as scarlet fever. The rarer prevalence of the latter disease as a factor of deafness is due partly to the diminished severity of the disease in recent years and partly to increased attention paid to its prevention by sanitary authorities. To suppurative aural disease not caused by fevers 11 per cent. of the total cases were referred; the majority of these were due to adenoids or to middle-ear catarrh, and most of these were avoidable.

Epilepsy among School Children.

From the report it appears that in London alone about 300 children are constantly debarred from educational benefits on account of epilepsy. Besides these, a certain number of children who suffer from *petit mal* are allowed to remain in ordinary schools, or, where the affection is more serious, in special schools. Some epileptic children are highly intelligent, while others are simply imbeciles. Some are placid, others violent and sometimes insane. For the care and treatment of epileptic children there still continues urgent need for suitable and commensurate provision in the metropolis.

(To be concluded.)

ASYLUM REPORTS.

Croydon Mental Hospital, Warlingham, Surrey (Annual Report for the Year 1911).—The average number resident at this hospital during the year was 651. Sixty-five men and 179 women were admitted. Of these, 8 were congenital cases, 88 had been insane for more than 12 months before admission, 24 had been insane for over three months before admission, and 48 had previously suffered from an attack of insanity and had been insane a second time more than 12 months before admission. Among etiological factors, heredity was traceable in 64 cases. Dr. E. S. Pasmore, the medical superintendent, found an insane history in 55·4 per cent. of the admissions. Of these, 25 per cent. were men and 30·4 per cent. women. A direct inheritance of insanity through father or mother was found in 34 per cent. Of those who have an insane history, only 28 per cent. recover; of those who have no insane history, 46·2 per cent. recover. The recovery rate, therefore, is 18·2 per cent. higher in those who have no inherited tendency than in those who have such a tendency. Fifty persons were discharged recovered. Excluding the 65 chronic cases received as boarders from other asylums, this gives a recovery rate of about 36·8 per cent. The deaths numbered 42. Post-mortem examinations were held in 20 cases. In the remaining 22 cases the friends objected. Pulmonary tuberculosis, heart disease, general paralysis, and pneumonia were the chief causes of death. Dr. Pasmore points out that the majority of those admitted were nearly 12 months afflicted before asylum treatment was sought. In many cases the patients had passed through the hands of charlatans and those inexperienced in nursing. The dread of friends to seek early advice from a mental specialist is due to the horror people have to their relations being certified as insane and sent to an asylum. This evil might be mitigated if the lunacy authorities in every town were to coöperate with the local authorities. A hospital mental clinique presided over by the medical officers of the local asylum might be instituted at every local hospital in the country, near which there is an asylum, but in such a fashion as not to clash with other out-patient departments. Medical officers in turn from the asylum could attend on one or two mornings a week. People might then be attracted to bring their friends to such a clinique, on the first sign of any mental aberration manifesting itself, to seek advice. By this means cases in the earlier stage might be detected, and there would be a chance of immediate cure, while those who became chronically insane could be at once drafted to the local asylum.

City of London Asylum, Stone, near Dartford (Annual Report for the Year 1912).—At this hospital the number under treatment during the year was 755, the average daily number resident being 617. The number of admissions, 139, was smaller than that of the previous year by 11. The number of the admissions at this hospital is not, as in other public mental hospitals, an index of the insanity occurring in a certain district, but depends on the number of vacancies present. Acute melancholia was present in 31 cases, acute mania in 18 cases, general paralysis of the insane in 16 cases, and delusional insanity in 25 cases. Thirty-four patients recovered. The proportion per cent. of the recoveries to direct admissions was 31·77. Thirty-three patients died during the year, and 26 necropsies were made. The proportion per cent. of deaths on the daily average number resident was 5·34. The principal causes of death were general paralysis in 8 cases, and senile decay in 5 cases. There were only 4 deaths from tubercular disease. Sixty-three paying patients were received. Dr. R. H. Steen, the resident physician, reports that a new verandah has been opened recently on the female side. Other verandahs have been in constant occupation by day and night, and the wonder is now frequently expressed as to how it was possible to manage without them in the past. All kinds of mental disease were benefited by the rest of the sufferer in bed in the open air, but it is, perhaps, in acutely maniacal conditions that we see the most remarkable results. Dr. Steen has frequently seen a patient who while in a padded room was noisy, excitable, and destructive, on removal to a verandah become quiet and go off to sleep. With regard to other matters of treatment, the use of the prolonged warm bath has proved, in several cases, to be of service. In general paralysis, urotropine has been employed as a routine measure, and the general impression has been that it is of distinct value.

Ayr District Asylum (Annual Report for the Year 1912).—The total number of cases under treatment at this asylum during the year was 687, or 17 below last year's number, which was the highest ever recorded for this asylum. The admissions numbered 138. The male admissions were 15 less than the average for the county during the past 20 years, while the number for the women was only two more. Of those admitted, over 60 per cent. were in indifferent bodily health and over 35 per cent. were in a very weak and exhausted condition. The figures are indicative of the considerable amount of medical and nursing attention involved in the care of the physical state of the insane. With regard to the curability of those cases admitted, 40 per cent. suffered from conditions involving permanent or progressive mental enfeeblement. No less than 40 per cent. of the cases had shown symptoms of mental disease for over a year before admission to the asylum. Dr. G. Douglas McRae, medical superintendent, points out that it is of the utmost importance to the individual to have early and skilled treatment if a cure is to be effected. The disadvantage to society, on the other hand, in failing to make timely provision, is an accumulation of rate-paid mental cripples, which represents a loss to the nation in *personnel* and pocket. Thus the popular prejudice against early asylum treatment jeopardises the individual and still further burdens the State. With regard to the ages of those persons admitted, 23 per cent. were under 30 years of age, 27 per cent. between 30 and 40, 17 per cent. between 40 and 50, 20 per cent. between 50 and 60; 8 were over 70. Hereditary predisposition to insanity was ascertained in nearly 22 per cent. of the cases. Alcoholic excess obtained also in 22 per cent., either as cause or symptom of the mental malady. This is a considerable improvement on the 52 per cent. of the year before. The recovery rate calculated on the number of admissions for both sexes stands at 40·58 per cent. Twenty-six cases were discharged unrecovered, 24 relieved, and 2 not improved. The number of deaths was 56. Six persons died with tuberculosis as principal or contributing cause. This number is a gratifying reduction in figures for the past five years, from 37 per cent. of the total deaths in 1908 to 10·7 per cent. in 1912.

LITERARY INTELLIGENCE.—Messrs. William Hodge and Company, Edinburgh and London, announce for early publication a new volume in their series of Notable English Trials, entitled "The Trial of Dr. Lamson," edited by Hamilton L. Adam, and illustrated with portraits.—Mr. Edward Arnold is publishing a new work by Professor Robert Saundby, M.D., entitled "Old Age: Its Care and Treatment in Health and Disease."

Public Health.

Public Health at Colombo.

The medical officer of health of Colombo, Dr. William Marshall Philip, reports a generally satisfactory condition in this city during the year 1911. According to a census taken in March the population numbered 212,295, the remarkable increase of 36 per cent. having occurred during the preceding decennium. Of this increase 7 per cent. was due to an extension of the city boundaries. Even with this deduction the actual increase was more than 10,000 above the estimated number. We are not surprised to hear that the housing problem has become so pressing, partly from the indiscriminate and insanitary erection of buildings that has taken place for many years, and partly from this great increase in numbers, that remedial action is urgently required. The course suggested is to follow the examples of Bombay and Calcutta, and create an improvement trust for the city. The sooner this is done the less costly will it be for the ratepayers. The birth-rate was 24·7 per 1000, an increase of 1·6 over the average for the preceding decennium. The infantile death-rate was 316 per 1000 births, a decrease of 22 on the preceding average; but as it is a native custom to migrate from the city shortly before the birth of the child and return soon after, the birth-rate is too low and the infantile death-rate too high. The general death-rate was 33·8 per 1000, an increase of 0·8 on the decennial average; if corrected for deaths in hospital of non-residents the ratio was 30·9. Pneumonia, causing 4·02 deaths per 1000, was the most fatal disease, this rate having only twice been exceeded during the decade; on the other hand, phthisis caused 2·96 deaths per 1000, a lower ratio than in any year of the decennium, and 0·55 below the average. Since 1906 energetic preventive measures have been undertaken, including, *inter alia*, notification of cases and disinfection of houses affected. In the year 1911 there were 364 houses so treated, and it seems only reasonable to attribute the improvement to this vigorous action. Dr. Philip points out that the next forward step is to provide a hospital for the segregation of advanced and infectious cases, with power to enforce removal when necessary. Diarrhœa and dysentery have caused 4·57 deaths per 1000, a decrease of 1·41 on the decennial average, and the fever mortality has also slightly diminished from 2·46 to 2·29 in the year under review. Of enteric fever 1149 cases were reported, with 396 deaths, a ratio of 1·85 per 1000, this being an increase over the decennial figure of 1·18. The case mortality, 38·9 per cent., shows that many non-fatal cases must have escaped notification. Direct contact is considered to have been a frequent mode of spread among the poorer classes; also latrine infection, either directly or through flies. Dr. Philip speaks strongly of the neglect that many householders are guilty of in regard to the state of their servants' latrines. In this he has our entire support. "The more unpleasant a place the servants' latrine is to inspect the more need is there that the householder should do so, and see that proper steps are taken to improve it and to protect both his own and his neighbour's households. If he fails to do so he must be viewed as a menace to public health." Of 900 cases of enteric fever investigated, the latrines were found to be badly kept in 801. Milk was not an important source of infection, none having been taken in 63 per cent. of the cases, and only tinned milk in a further 16 per cent. Dr. Philip strongly recommends inoculation for the young European arrivals in the colony. Of small-pox, 65 cases occurred with 8 deaths, the infection being, as usual, imported from India. Attention is called to the absence of any special staff for carrying out food inspection, this being done by sanitary inspectors, who have many other duties to perform. A very great improvement has taken place in the character of the milk-supply, only 17 per cent. of 1087 samples having been found to be adulterated; whereas in 1907 adulteration was found in 73 per cent. There is a very large consumption of tinned milk, some of which is of very inferior quality: the recommendation of the medical officer that it should be an offence to sell tinned milk, with instructions on the label which if carried out would reduce the milk below the Colombo standard, is most reasonable. Injustice is done to the local milk dealers and injury to the health of infants by the use of inferior brands of milk. Dr. Philip also recommends that tinned meat, &c., should have the date of filling clearly impresse each tin, without which mark it should be lia seizure. In this he has the support of all public authorities. The native laundry arrangements at C are as unsatisfactory as in most places in the Ea know no better solution than that here recommende there should be two standards, one for the ordinary and another and higher standard of sanitation for class *dhobie*, for which the customer must be prep pay at a higher rate. Good work is done in syst municipal cleansing of compounds and especially o latrines, and in dealing with mosquito breeding We congratulate Dr. Philip on the results of a year under the extremely difficult sanitary conditions of Co

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns with popul exceeding 50,000 persons at the last Census, and aggregate population at the middle of this year is esti at 17,852,766 persons, 9353 births and 5337 deaths registered during the week ended Saturday, Apri The annual rate of mortality in these towns, whic been 17·0, 16·5, and 16·9 per 1000 in the three pre weeks, declined to 15·6 per 1000 in the week notice. During the 13 weeks of the quarter just end mean annual death-rate in these towns averaged against 17·5 per 1000 in London during the same p The death-rates last week in the several towns ranged 5·7 in Rotherham, 6·6 in Southend-on-Sea, 7·0 in E 7·7 in Ealing, and 7·8 in Portsmouth, to 20·9 in Sto Trent, 21·2 in Plymouth, 22·2 in Middlesbrough, 2 St. Helens, and 24·9 in Stockton-on-Tees.

The 5337 deaths from all causes in the 96 towns we fewer than the number in the previous week, and inc 402 which were referred to the principal epidemic dis against numbers declining from 464 to 410 in the preceding weeks. Of these 402 deaths, 215 resulted measles, 60 from whooping-cough, 53 from inf diarrhœal diseases, 35 from diphtheria, 23 from scarlet and 16 from enteric fever, but not one from small-pox. mean annual death-rate from these diseases last wee equal to 1·2, against 1·3 and 1·2 per 1000 in the two ceding weeks. The deaths attributed to measles, w had been 229, 220, and 208 in the three preceding w slightly rose to 215 last week, and caused the hi annual death-rates of 2·8 in Plymouth and in Smethwic in Wolverhampton, 3·5 in Bury, 3·9 in Walsall, 6 West Bromwich, and 7·3 in St. Helens. The d referred to whooping cough, which had been 83, 72, a in the three preceding weeks, further declined to 6 week, and included 16 in London, 6 in Stoke-on-Tren Bristol, 5 in Liverpool, and 3 in Warrington. The cases of diarrhœa and enteritis (among infants under 2 of age), which had been 69, 67, and 71 in the preceding weeks, fell to 53 last week; 17 deaths registered in London, 6 in Liverpool, 3 in Manch and 3 in Salford. The deaths attributed to dipht which had declined from 54 to 37 in the preceding weeks, further fell to 35 last week, and in 6 in London, 5 in Leeds, and 2 each in Willesden, on-Trent, Liverpool, St. Helens, Middlesbrough, Swansea. The deaths referred to scarlet fever, whic been 23, 28, and 19 in the three preceding weeks, w last week, of which number 5 occurred in London, Birmingham, and 2 in Manchester. The fatal cases of e fever, which had been 9, 13, and 8 in the three pre weeks, rose to 16 last week, and included 2 in London in Sheffield.

The number of scarlet fever patients under treatm the Metropolitan Asylums and the London Fever Ho which had steadily declined from 2112 to 1455 in the ceding weeks, had further fallen to 1410 on Saturda 167 new cases were admitted during the week, a 164, 156, and 168 in the three preceding weeks. hospitals also contained on Saturday last 900 ca diphtheria, 854 of measles, 282 of whooping-coug

39 of enteric fever, but not one of s
deaths from all causes in London wer
number in the previous week, and were equal to an annual death-rate of 16·3 per 1000. The deaths referred to diseases of the respiratory organs, which had steadily fallen from 453 to 380 in the five preceding weeks, further declined to 346 last week, but were 110 above the number recorded in the corresponding week of last year. The deaths *attributed to influenza last week numbered 45, against* 65 and 47 in the two preceding weeks.

Of the 5337 deaths from all causes in the 96 towns, 159 resulted from different forms of violence, and 402 were the subject of coroners' inquests. The causes of 27, or 0·5 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Manchester, Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, Nottingham, and in 60 other smaller towns. Of the 27 uncertified causes of death, 5 were registered in Birmingham, 3 in Liverpool, 3 in Warrington, 3 in Sheffield, and 2 each in Stoke-on-Trent, Preston, and Sunderland.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1256 births and 744 deaths were registered during the week ended Saturday, April 5th. The annual rate of mortality in these towns, which had steadily declined from 20·7 to 17·2 per 1000 in the five preceding weeks, was again 17·2 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these Scotch towns averaged 19·1, against a corresponding rate of 16·9 per 1000 in the 96 large English towns. Among the several towns the death-rates last week ranged from 9·1 in Kirkcaldy, 9·2 in Ayr, and 11·0 in Paisley, to 19·5 in Kilmarnock, 20·8 in Leith, and 24·8 in *Greenock.*

The 744 deaths from all causes were equal to the number in the previous week, and included 75 which were referred to the principal epidemic diseases, against 88 and 83 in the two preceding weeks. Of these 75 deaths, 43 resulted from whooping-cough, 13 from infantile diarrhœal diseases, 8 from measles, 6 from diphtheria, 3 from enteric fever, and 2 from scarlet fever, but not one from small-pox. These 75 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·7, against 1·2 per 1000 *in the 96 large English towns. The deaths attributed to* whooping-cough, which had been 50, 55, and 44 in the three preceding weeks, were 43 last week, and included 22 in Glasgow, 7 in Edinburgh, 5 in Leith, and 4 in Greenock. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis were 13 last week, against an average of 17 in the four preceding weeks; of this number 8 were recorded in Glasgow, 4 in Dundee, and 1 in Edinburgh. The fatal cases of measles, which had been 6, 5, and 9 in the three preceding weeks, were 8 last week, and included 4 in *Glasgow and 2 in Falkirk.* The 6 deaths attributed to diphtheria were equal to the average in the three preceding weeks, and comprised 3 in Glasgow and 3 in Dundee. The 3 deaths referred to enteric fever occurred in Glasgow, Edinburgh, and Greenock respectively; the 2 fatal cases of scarlet fever were recorded in Glasgow. In addition to the above diseases, 2 deaths from typhus fever were registered in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 144, 166, and 154 in the three preceding weeks, declined to 127 last week; 27 *deaths* were attributed to different forms of violence, against 25 and 17 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 746 births and 535 deaths were registered during the week ended Saturday, April 5th. The annual rate of mortality in these towns, which had been 23·4, 21·7, and 23·8 per 1000 in the three preceding weeks, declined to 23·3 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these Irish towns averaged 22·2 per 1000; in the 96 large English towns the corresponding death-rate did not exceed 16·9, (against 16·3 in London and 18·7 in Glasgow), 21·2 in Belfast, 18·4 in Cork, 22·9 in Londonderry, 14·9 in Limerick, and 24·7 in Waterford, while in the remaining 21 smaller towns the mean death-rate was equal to 21·2 per 1000.

The 535 deaths from all causes in the 27 Irish towns were 12 fewer than the number in the previous week, and included 39 which were referred to the principal epidemic diseases, against 36 and 46 in the two preceding weeks. Of these 39 deaths, 14 resulted from measles, 11 from infantile diarrhœal diseases, 6 from diphtheria, 5 from whooping-cough, and 3 from scarlet fever, but not one from small-pox or from enteric fever. These 39 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8 per 1000; in the 96 large English towns the death-rate from these diseases last week did not exceed 1·2, while in the 16 Scotch towns it was equal to 1·7 per 1000. The deaths attributed to measles, which had been 13, 14, and 17 in the three preceding weeks, slightly declined to 14 last week, and included 4 in Newry, 4 in Wexford, and 2 each in Belfast, Cork, and Tralee. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 11, 7, and 8 in the three preceding weeks, rose to 11 last week, and comprised 7 in Dublin and 4 in Belfast. The 6 fatal cases of diphtheria, of which 4 occurred in Dublin and 2 in Belfast, were equal to the average in the three preceding weeks. The deaths attributed to whooping-cough, which had been 6, 4, and 10 in the three preceding weeks, declined to 5 last week, of which number 3 were registered in Waterford and 2 in Dublin. Of the 3 deaths referred to scarlet fever 2 were recorded in Belfast and 1 in Dublin. In addition to the above diseases a fatal case of typhus fever occurred in Dublin.

The deaths in the 27 Irish towns referred to diseases of the respiratory system, which had been 136, 138, and 122 in the three preceding weeks, rose to 142 in the week under notice. Of the 535 deaths from all causes, 169, or 32 per cent., occurred in public institutions, and 8 resulted from different forms of violence. The causes of 21, or 3·9 per cent., were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0 5 per cent

THE SERVICES.

NEW MEDICAL DIRECTOR-GENERAL OF THE NAVY.

Surgeon-General William May, C B., has been appointed Medical Director-General of the Navy, in succession to Surgeon-General Sir James Porter, K.C.B.

ROYAL NAVY MEDICAL SERVICE.

The following appointments have been notified:—Fleet-Surgeon: H. E. Tomlinson to the *Victory*, additional, for Portland Depôt, temporarily, on the *Imperieuse* paying off. Staff-Surgeons: A. S. Bradley to the *Excellent*, additional, for the *Dido*, on recommissioning; D. P. Chapman to the *Gibraltar*, additional, for the *Grafton*, on recommissioning; and W. P. Walker, to the *Gibraltar* for the *Crescent*. Surgeon: V. L. Matthews to the *Victory*, additional, for disposal, and to the Royal Marine Artillery Division, Eastney.

The Haslar Course for Acting Surgeons.

The Course for Acting Surgeons, Royal Navy, was brought to a close on March 28th at Haslar, when the prizes were distributed by Surgeon General Howard Todd. Special commendation was awarded to Acting Surgeons A. E. Malone, H. M. Whelan, and R. F. P. Cory for zeal and ability The gold medal was gained by Acting Surgeon Malone (Dublin University), who obtained the highest aggregate marks in the London, Greenwich, a [illegible] silver medal by Acting S [illegible] Cardiff, and the London [illegible] The grou [illegible] at Green [illegible] and the [illegible] awarded in Group I. to Acting Surgeon Whelan, and in Group II. to Acting Surgeon Cory (St. Thomas's Hospital)

The order of seniority, as determined by the results of the examinations held at London, Greenwich, and Haslar, is given below:—

	Marks.
1. A. E. Malono, M.B. ...	3664
2. H. M. Wholan	3502
3. R. F. P. Cory	3467
4. H. St. C. Colson	3371
5. G. A. Finogan...	3069
6. J. T. D. Higgins, M.B.	3872
7. J. G. Boal, M.B.	3860
8. F. S. B. Wickham... ...	3845
9. S. Punch	3833

ROYAL ARMY MEDICAL CORPS.

Colonel C. E. Faunce has taken up duty as Assistant Director of Medical Services to the Woolwich District and in charge of the Royal Herbert Hospital, in succession to Colonel R. W. Ford, D.S.O., who has been placed on the half-pay list.

Lieutenant-Colonel J. B. Wilson has been selected for the increased rate of pay under Article 317 of the Royal Warrant for Pay and Promotion. Lieutenant-Colonel S. Macdonald has taken up duty as Medical Inspector of Recruits to the Southern Command at Headquarters, Salisbury. Lieutenant-Colonel A. W. Bewley has been selected for appointment as Deputy-Assistant Director of Medical Services to the Northern Command at York, in succession to Lieutenant-Colonel F. R. Newland, appointed to hold charge of the Military Hospital at Dover. Lieutenant-Colonel C. Cooper-Reilly has been transferred from the Belgaum Cantonment to Colaba, Bombay.

Major E. W. W. Cochrane has arrived home for duty from Bermuda. Major G. T. K. Maurice has been transferred from the Military Hospital at Reading to the Military Hospital at Tidworth, Salisbury Plain. Major M. P. Corkery has been appointed to the Military Hospital at Fermoy. Major T. B. Unwin has left the London District for a tour of service in the Sierra Leone Protectorate. Major A. L. A. Webb has been appointed for duty in the Scottish Command. Major R. W. H. Jackson has been selected to hold charge of the Military Hospital at Weymouth. Major E. McDonnell has arrived home for duty from Bermuda. Major F. M. Mangin has embarked for a tour of service in India. Major T. E. Fielding has been appointed to the Southern Command. Major W. G. Beyts has been granted three months' general leave of absence from India. Major J. F. M. Kelly has been appointed to the Eastern Command. Major A. H. N. Mitchell has been transferred from Netley to the Eastern Command.

Captain A. W. Bevis has been appointed to the Belfast District for duty. Captain W. B. Purdon has taken up duty at the Military Hospital, Devonport. Captain C. J. W. Wyatt has been placed under orders for a tour of service in the Sierra Leone Protectorate. Captain A. Dawson has been appointed to the Dublin District for duty. Captain F. A. H. Clarke has left Glasgow for a tour of service in India. Captain J. B. Meldon has been transferred from the Military Hospital at Dover to Brighton. Captain W. C. Smales has taken up duty at the Military Hospital, Portsmouth. Captain P. Sampson has been appointed to the Irish Command. Captain J. W. Houston has been transferred from the Military Hospital at Colaba to the First (Peshawar) Division of the Northern Army in India.

INDIAN MEDICAL SERVICE.

The King has approved of the retirement of the undermentioned officers of the Indian Medical Service:—

Lieutenant - Colonel John Macfarlane Cadell (dated March 5th, 1913). Lieutenant-Colonel Charles Hardwick Louw Meyer (dated March 15th, 1913). Major Thomas Edgar Watson (dated March 15th, 1913).

Lieutenant-Colonel G. T. Birdwood has been selected for appointment as Professor of Pathology on the staff of the King George Medical College at Lucknow. Lieutenant-Colonel W. Molesworth has been granted one year's combined leave of absence home from India. Lieutenant-Colonel H. Austin Smith, civil surgeon, Simla East, has been appointed to hold officiating Medical Charge of Army Headquarters Staff and Establishment.

Major P. Dee has been appointed to officiate as a First-class Civil Surgeon under the orders of the Government of Burma, in succession to Major E. R. Rost, granted leave of absence. Major J. N. Walker has been selected for appointment as Civil Surgeon at Aligarh. Major E. L. Perry has been granted privilege leave for three months combined with four months' study leave home from India. Major C. C. S. Barry has been selected as Superintendent of the General Hospital at Rangoon, in succession to Major T. Stoddart, transferred to Mogok. Major A. M. Fleming has taken up duty at Jubbulpore, in succession to Captain J. M. A. Macmillan, appointed Civil Surgeon at Amraoti. Major T. E. Watson has arrived home on leave of absence from India.

Captain M. A. Nicholson has been selected for appointment as Medical Officer in charge of the Lawrence Military Asylum at Sanawar, in succession to Captain J. Simpson. Captain S. C. Pal has been selected for appointment as substantive Medical Officer to the 108th Native Infantry Regiment stationed at Bangalore, in succession to Major W. H. Cox, D.S.O. Captain J. S. O'Neill has been appointed to officiate as Civil Surgeon at Jhansi. Captain A. N. Dickson has arrived home on leave of absence from India. The services of Captain H. H. G. Knapp have been placed permanently at the disposal of the Government of Burma for employment in the Jail Department. Captain A. Cameron has been selected for appointment as Chief Plague Medical Officer in the United Provinces of Agra and Oudh, in succession to Lieutenant-Colonel H. B. Melville. Captain G. J. Davys has been appointed Specialist in the Prevention of Disease and placed in charge of the Bacteriological Research Laboratory at Brigade Headquarters, Jubbulpore. Captain C. H. Barber has relinquished medical charge of the Banda District. Captain C. Rigby Lynn has been transferred from Trichinopoly to Delhi and appointed Medical Officer to the 11th Lancers. Captain A. McD. Dick has been appointed a Specialist in Advanced Operative Surgery. Captain A. J. V. Betts has returned to India from leave of absence home. Captain E. A. Walker, officiating ophthalmic surgeon at the General Hospital, Rangoon, has been appointed to officiate as Civil Surgeon at Bassein, in succession to Lieutenant-Colonel J. Penny. Captain J. Anderson has been selected for appointment as Civil Surgeon at Hazara. Captain J. Taylor has been granted three months' privilege leave combined with six months' study leave home from India.

Lieutenant R. A. Murphy has taken up duty as Medical Officer to the Surma Valley Light Horse.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant Mark Anthony resigns his commission (dated April 2nd, 1913). Lieutenant Alexander D. d'Avray is confirmed in his rank. Cadet Harry Chapman Sinderson, from the Edinburgh University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated March 6th, 1913). Harry Evans, late Cadet, Edinburgh University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated Feb. 15th, 1913). Cadet Staff Sergeant Walter Tennyson McCurry, from the Belfast University Contingent, Officers Training Corps, to be Lieutenant (on probation) (dated March 11th, 1913).

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd East Lancashire Field Ambulance, Royal Army Medical Corps: Major Wilfred M. Steinthal to be Lieutenant-Colonel (dated March 1st, 1913).

Supernumerary for service with the Officers Training Corps: Lieutenant George A. Williamson is appointed to serve with the Aberdeen University Contingent, Senior Division, Officers Training Corps (dated July 13th, 1912).

Attached to Units other than Medical Units.—Lieutenant Arthur H. Norris to be Captain (dated Dec. 21st, 1912).

Sanitary Service.—Lieutenant James Dundas, from the 2nd Home Counties Field Ambulance, Royal Army Medical Corps, to be Captain, whose services will be available on mobilisation (dated April 9th, 1913).

ROYAL ARMY MEDICAL CORPS EXAMINATION.

An examination for commissions in the Royal Army Medical Corps (probably not more than five) will be held on July 23rd. Applications to compete should be made to the Secretary, War Office, not later than July 14th.

COLONIAL MEDICAL SERVICES.

West African Medical Staff.—Dr. A. W. Atkinson, medical officer, Gold Coast, has retired with a gratuity, and Dr. St. G. Gray, senior medical officer, Southern Nigeria, has retired on a pension. The following gentlemen have been selected for appointment to the staff: Mr. N. A. D. Sharp (Gold Coast), Dr. J. C. O Hogan (Northern Nigeria), and Dr. J. A. Beattie (Northern Nigeria).

Correspondence.

"Audi alteram partem"

MEDICAL OFFICERS OF HEALTH (SUPERANNUATION) BILL: AN APPEAL TO SCHOOL MEDICAL INSPECTORS AND TUBERCULOSIS OFFICERS

To the Editor of THE LANCET

SIR,—In the House of Commons on April 18th there is set down for the second reading the Medical Officers of Health (Superannuation) Bill Medical officers of health, whether whole time or part-time, are included in the provisions of the Bill, which is on a contributory basis

A memorandum on the Bill is contained in the April number of *Public Health*, which sets out the strong claims for superannuation of medical officers of health Medical officers of health are now generally recruited from the ranks of the junior branches of this service—namely, school medical inspectors and tuberculosis officers, of whom there are at present at least three times as many as of medical officers of health This means that there will always be the larger proportion of officers remaining in these junior branches of the service which are paid at a rate of salary ranging from a half to a third of that paid to whole time medical officers of health

Since the Insurance Act came into operation school medical inspectors are, outside institutions, the lowest paid members of the profession All the arguments in the Bill *can be urged in the case of medical* inspectors and tuberculosis officers, and the argument contained in the following extract from the memorandum on the Bill can be much more powerfully supported in favour of the junior services

> Moreover they (medical officers of health) can hardly be classed among highly paid officials and have thus little opportunity for saving sufficient from their incomes to enable them to retire when it might be distinctly in the public interest to do so

My object in writing is to point out that the Bill does not include school medical inspectors or tuberculosis officers and to have an amendment brought forward, and, if possible, incorporated in the Bill during the Committee stage to make the words "medical officers of health" include school medical inspectors and tuberculosis officers To this end may I ask all school medical inspectors and tuberculosis officers to write to me without delay, saying whether they are in favour of such a course, and to write or interview their Member of Parliament urging him to assist the progress of the Bill safely through Parliament

I am, Sir, yours faithfully,
ALEXANDER GRAHAM,
School Medical Inspector
West Ham, April 7th, 1913

PROFESSOR BIEDL'S TREATISE ON "THE INTERNAL SECRETORY ORGANS"

To the Editor of THE LANCET

SIR,—Although I consider any controversy with Dr Leonard Williams in reference to the English translation of my work, "The Internal Secretory Organs," futile and to be deprecated, his letter in THE LANCET of March 29th calls for some remark and constrains me to reply With your permission I also desire to recapitulate the inner history of the translation and to explain my part in the origin of the strictures referred to by your reviewer

In my contract with the London publisher I stipulated in the first place that the translation was to be made by a competent expert, and further that I was to be allowed to supervise and to correct it as far as was necessary I was informed by the publisher that Dr Leonard Williams would undertake the responsibility of the *translation, and I was not a little* astonished to find on the publication of the book Miss Linda Forster as translator I was, moreover, disagreeably surprised that the preface in the original from the pen of Professor Richard Paltauf, of Vienna, had been suppressed and replaced by a foreword from Dr Leonard Williams without my first being referred to I am convinced that the original preface would have been of greater interest to the English reader

In the typewritten manuscript which was submitted to me in parts—often after a considerable interval of time—I found various inaccuracies, names of authorities wrongly spelt and mistakes of more essential importance due to an imperfect understanding of the original text all requiring correction I considered it my duty to correct these in detail To these corrections, for example, it is due that the names of the authors in the English version are more correctly given than in the original I would not have corrected inaccuracies in the language had my attention not been drawn to them by a thoroughly competent man, Dr C Lawrence Herman, of Capetown, who undertook the weary and thankless task of revising and correcting the manuscript

With due deference to Dr Leonard Williams, I maintain that these corrections in the majority of instances have been incorporated with great advantage to the translation If the English version "as a whole is well done and gives very fairly the spirit of the original," this is undoubtedly due in some measure to my friend Dr Herman The remarks of Dr Williams in reference to my "professorial style" and my "knowledge of the English language" are unnecessary and uncalled for, while his desire to saddle me with the responsibility for "some Germanicisms and curious renderings" is unjust If it amuses Dr Williams to make fun of my corrections "auf echteste und korrckteste pädagogische Weise," I can only assure him that the revision and correction of the manuscript were undertaken in the most loyal and friendly spirit of cooperation, with the sole desire of making the English version worthy of being read by all interested in the subject in England and elsewhere Moreover, I am not without hope that Dr Williams, on more mature consideration, will come to see that his remarks were ill judged and little befitting the occasion

The just strictures of your reviewer in his sympathetic and courteous remarks are sufficient evidence that it would have been better had the printer's proofs been sent to me as well for final correction, in which case such errors as "jodothyrin in suprarenals," "gall" instead of bile, "secretary" instead of secretory, "intercranial pressure" for intracranial, would not have escaped me

Unusual as it may be that an author reserves to himself the right of correcting and amending the translation of his work in a foreign language, the desire of Dr Leonard Williams to place to my credit any deficiencies in the English translation makes it clear to me that in this instance at least I have not sufficiently safeguarded myself in all directions Thanking you in anticipation for the publication,

I am, Sir, yours faithfully,
Prof BIEDL
Wien, April 1st, 1913

SOME POINTS IN SURGICAL TECHNIQUE.

To the Editor of THE LANCET

SIR —A simple and efficacious plan has occurred to me for ensuring a completely skin covered, and therefore skin-free, wound during operation, whereby one potent source—the *patient's skin—of wound contamination might be obviated* As I feel sure it will prove of value and commend itself to others I will describe it It is carried out either by the aid of suture or Michel's clips Directly the skin incision is made and before the operation is further proceeded with, on both sides of the wound the margins of the sterile covering are tucked round the skin margins so as to hide completely the skin from view and fixed in this position till the end of the operation If a suture be used a continuous or interrupted one is passed through covering, skin, and covering in the order named, whilst if the clips be exploited they are clamped to the skin margins by penetrating the two layers of covering At the extremities of the wound two clips are applied so as to keep together the two margins of the covering By this simple, facile, and speedy process the skin is covered and *is not seen or touched during the operation* (to my mind, a most important, although usually neglected, precaution) Thus, the sterile cloth is carried round the skin margins on to the subcutaneous tissue, on the one hand, and in the other direction covers the skin in the neighbourhood in the ordinary way, and hence it will be seen that the sterile cloth is continuous with the germ free subcutaneous tissue, and as far as the patient is concerned we have a sterile field and wound. I strongly commend this simple expedient. I have elsewhere described some towel clips constructed to my requisition by Messrs. Mayer, Meltzer, and Co., one of the chief objects of which was to bring about the same result.

Bearing also on the subject of primary union of wounds, I would like to call attention to a plan adopted recently on my own initiative in regard to the question of operative skin preparation and treatment. This method is based upon the phenomenon, which I think cannot be denied, that all clean wounds heal much better if kept dry, and that moisture undoubtedly favours or provokes inflammation. No one would think of applying a moist dressing to, or keeping wet, a clean wound if healing by first intention were desired, for such an action would court disaster. To operate on a sodden skin would be folly, and I think a good deal of the trouble experienced with wounds, even after the most careful preparation, is due to previous humidity; and to my mind there is no more culpable *agent provocateur* than the favoured and time-honoured protective compress. Probably much of the failure in, and past difficulty in explaining the state of, operative wounds finds its elucidation here. This old and favourite method might be called the wet compress method (lint, protective and wool) as opposed to the one to be described—namely, the dry compress method. I believe much of the value and credit gained by iodine applications to be due not only or necessarily to its hyperæmic and bactericidal properties, but also to the desiccating properties of this preparation. Water being a *sine quâ non* for the life of vital organisms, and therefore of bacteria, and dryness spelling death or quiescence, it would appear that the day of moist applications is over, and that no compress or dressing that includes protective (moisture retaining) should henceforward be considered. Pathological knowledge and surgical experience condemn such. The dry method is as follows. The skin is washed by ether soap (never scrubbed), then gone over with turpentine, followed by spirit of biniodide of mercury. Now come the chief modifications. The skin is covered by sterilised talcum toilet powder; any of these may be used, as the preparations of Parke Davis, Colgate, Sewar, &c. These powders are free from irritating antiseptics, and have valuable desiccating properties. The powder is now gently rubbed into the skin by a sterile piece of wool, after which the part is covered by a thick layer of powder, and the whole region covered by a dry sterile compress, which is bandaged on, but mind, no protective of any kind to keep the skin sodden or retain moisture, and therefore invite bacterial activity and disaster. At the time of operation the skin presents an ideal appearance, for it is dry, and, I think, as a fact and for this reason gives gratifying results; at least, such has been my experience so far. At the end of the operation the line of incision is covered with a thick layer of powder; incidentally this prevents adhesion of wound to dressings, and thereby obviates this source of irritation to the patient as well as to the wound. On subsequent days powder is applied again as required. I have noticed during the adoption of this technique not only absence of redness at the site of incision but also at the sites of the suture punctures. Perhaps a combination of this powder method and iodine might give even better results. But so far I am satisfied.

I would, therefore, lay emphasis on the dry method of preparing the skin, the avoidance of anything that will render moistness inevitable, especially the old and bad protective (oiled silk, gutta-percha tissue, &c.) compress application. The results so far obtained promise well for the future and are most encouraging.

I am, Sir, yours faithfully,
G. S. THOMPSON, F.R.C.S. Eng.
Kimberley, S. Africa, March 10th, 1913.

A DANGER TO HEALTH IN THE NEW FOREST.

To the Editor of THE LANCET.

SIR,—My attention has been called to an article with the above title which appeared in THE LANCET of March 29th, p. 910, that does grave injustice to the work of the medical officer of health for Ringwood, Mr. Charles E. Blackstone, and also to that of the medical officer of health for the county, Dr. Robert A. Lyster, and to the rural district council. Anyone reading your remarks would conclude that a plague spot, indeed, has been discovered, and that it was administered by a most careless local authority, assisted by thoroughly incompetent officials.

The report of the medical inspector of the Local Government Board, Dr. H. A. Macewen, upon which your remarks are based, is an unfortunate and misleading one, and contains many apparent errors in the statement of facts, concerning which it is difficult to understand how mistakes could arise. As, however, correspondence is going on between the Ringwood district council and the Local Government Board upon this report, I will not attempt to dealt with that matter here, but will instead briefly state what actually occurred. Before doing so I may as well freely admit that the water-supply of Ringwood is derived from shallow wells. As the result of examinations from time to time by successive medical officers of health these wells have not been unfavourably reported on, and the district council have given special attention to endeavour to preserve them from surface pollution. There has been nothing in the vital statistics of the district to cause concern, and though a public water-supply is probably an advantage, provided that it is derived from absolutely reliable sources, yet there have been no signs until recently that the ratepayers would sanction such a course.

Coming now to the epidemic of enteric fever last year, the first notifications reached the medical officer of health on August 13th, the cases then being of a mild type, and, I believe, entirely confined to children. The earliest case of the commencement of illness discovered here was on July 26th. We can find no trace of a case on July 18th, as mentioned by you. At all events, no case was notified until August 13th, no doubt because the disease could not be clearly diagnosed before then. On August 19th the district council met, and first heard of the outbreak. They consulted with their medical officer of health and with Dr. J. Gott, Poor-law medical officer, and upon their advice decided to at once engage nurses to work amongst the patients at their homes. The question of an isolation hospital was discussed, but temporarily allowed to remain in abeyance, as doubt was expressed as to the parents consenting to the removal of their children. It was arranged, however, that the health committee of the district council should be strengthened, and be summoned directly the epidemic showed signs of increasing. This committee met on August 21st and many times afterwards, and at once decided to open an isolation hospital, which was done on August 27th, or eight days after the council first heard of the outbreak, and 14 days after the receipt of the first notification. You refer to this hospital as being "of an unsatisfactory kind." It consisted of a fair-sized farmhouse in an open situation, with lofty rooms. A large Doecker hut was added as an annexe and a day room for convalescents was built of wood and galvanised iron in addition. It is a matter of opinion, of course, but most competent judges thought the hospital accommodation fairly good and decidedly creditable under the circumstances. On August 29th a letter was received by the clerk to the district council from the Local Government Board asking that the former body would request their medical officer to submit a report upon the epidemic. The next meeting of the council took place on Sept. 2nd, when this letter came before them and was dealt with. But on August 31st, late at night, Dr. Macewen appeared upon the scene, full of surprise that the desired report had not been received. He called upon the medical officer of health, who, late though it was, was extremely busy, and expressed his views in such language that a speedy termination of the interview was brought about. He also called on the chairman, the vicar of the parish, who no doubt received him with every attention, but as a clergyman with a heavy Sunday's duty before him the next day could hardly be expected to unduly prolong the conversation.

As to the cause of the epidemic, directly its presence was made clear every step was taken to try and establish from whence it originated. Water, milk, school contact, and so on, were all investigated in turn, Dr. Lyster, county medical officer of health, rendering th[illegible] the endeavours that were made. In [illegible] had been in conference with Mr. Blackstone on August 31st and had borrowed the written data for consideration until Sept. 2nd, when he returned it. This was the reason why this data was not available for Dr. Macewen's perusal on the evening of the same day, as he perfectly well knew. Although Dr. Lyster returned the papers on Monday, Sept. 2nd, it seems singular, but it is a fact, that Dr. Macewen never again asked to see them. It is also the case that he never once interviewed the district council, though they would have been pleased to see him. He casually met two members by chance, of whom I was one, and had a few words of conversation of quite an unofficial character, and, as already stated, he called upon the chairman. Dr. Macewen has expressed the opinion that the cause of the epidemic was the stream you allude to. I have been through his evidence most carefully, comparing it with reliable data, and as far as I am able to judge his theory and his evidence tumble to pieces when tested. In reports submitted to the district council, Mr. Blackstone states that, though the matter is not free from doubt, he believes that the strongest evidence points to the epidemic having originated from ice-cream supplied at school treats, the subsequent cases being contacts, and the ice-cream maker an intermittent carrier. I understand that Dr. Lyster also favours this view, though investigations are still going on in connexion with it.

I hope in justice to two capable and most assiduous medical men, if not to the district council, you will take steps to correct the most unfortunate impression conveyed to anyone reading your article who was ignorant of the real facts of the case.—I am, Sir, yours faithfully,

HOWARD TOZER,
Vice-chairman, Ringwood Rural District Council.
Ringwood, April 6th, 1913.

QUIS CUSTODIET IPSOS CUSTODES?

To the Editor of THE LANCET.

SIR,—A few days ago I sent a patient with somewhat obscure symptoms to have his blood examined at a well-known clinical laboratory in London, and received back a report which strongly suggested that he was suffering from an early stage of pernicious anæmia. In view of the importance of the matter I decided, before starting him on a course of arsenic, to obtain further corroboration of the diagnosis, and accordingly sent him to another laboratory in London for a second blood examination. A report followed which entirely negatived the diagnosis of pernicious anæmia. Only three days elapsed between the two examinations; during that time there was no alteration in the patient's symptoms and he had no special treatment. In each case the blood was taken at the laboratory, and at about the same hour of the day. I append the chief points in the two reports. It is upon facts such as these that the unfortunate physician has nowadays largely to rely for his diagnosis and his treatment. I need only add that I had a third examination made with the greatest care by a hospital colleague, and the results obtained differed materially from those given in both the previous reports, though they approximated more nearly to those in the first..

	Report 1.	Report 2.
Hæmoglobin	75 per cent.	84 per cent.
Red corpuscles	2,900,000 per c mm.	5,485,000 per c.mm.
White corpuscles ...	5,000 „	9,000 „
Colour index	1·3	0·8
Poikilocytosis	Moderate.	Absent.
Differential count—		
Polymorphonuclears	67·0 per cent.	57·0 per cent.
Small lymphocytes	28·5 „	30·0 „
Large lymphocytes	2·5 „	7·3 „
Eosinophiles	1·5 „	5·7 „
Mast cells	0·5 „	

I am, Sir, *yours faithfully*,
Cavendish-place, W., April 5th, 1913. J. WALTER CARR.

RECOVERY IN ACUTE TUBERCULOUS PNEUMONIA.

To the Editor of THE LANCET.

SIR,—I read with some interest Dr. S. N. Galbraith's paper on "Acute Tuberculous Pneumonia: Recovery" in to-day's issue of THE LANCET. I am of opinion that such cases are far from uncommon, though I would suggest that the prognosis is never really good.

The following is a good example of this condition. The patient, a youth 16 years of age, was admitted to the Ayrshire Sanatorium on August 16th, 1910. His illness commenced 16 weeks before admission and followed directly on over-exertion, produced by a long bicycle ride; he was, however, walking two or three miles every day until his admission to the sanatorium, though unable to follow his occupation of coalminer; during this period he was suffering from heavy night sweats. On admission he was running a temperature varying from 101°F. at night to 99° in the morning, which fell to normal in eight days following upon rest in bed and silence, and after that was never above the normal, his rectal temperature before rising averaging 97·7°. He had four ounces of sputum on admission containing tubercle bacilli. Physical examination revealed a condition of massive consolidation, apparently involving the whole of the left lung; there were also signs of softening at the right apex. He remained in the sanatorium five months, during which time he was able to do fairly heavy work in the garden, such as digging and wheeling barrows, without producing symptoms of auto-inoculation; he gained 19½ lb. in weight, and looked and felt quite well. His sputum was reduced to two or three pieces, and bacilli were not found when last examined. The condition at the left side of the chest was practically unchanged; the lung was apparently quite solid from apex to base. He returned home on Jan. 13th, 1911, and worked in a factory until April, 1912. His lung, I believe, then broke down, and he died on June 5th, 1912.

The following is another example. The patient, a young man 20 years of age, was admitted on Sept. 9th, 1912, and discharged on Nov. 1st. The commencement was somewhat different from that in the last case. He described himself as having been quite well until April, 1912; just before this he had complained of a little cough and some weariness. He then went home for a week-end, and owing to the coal strike was compelled to walk eight miles; at the end of this walk he was completely done, and his mother informed me that when he reached home he looked like a corpse. He became delirious after the walk, and remembered nothing for a month; he was thought to have acute pneumonia, and had consolidation of the whole of the right lung. At the end of a month he began to improve, and was sent to the sanatorium some months later. On admission he was afebrile, the pulse was usually over 100, and respirations 24; his breath was rather short. His temperature remained normal until he had a dose of Spengler's I.K., 0·2 c.c of 1 in 100,000, which immediately sent it up and increased his sputum and made him generally ill. The temperature fell immediately after another dose of 0·2 c.c. of 1 in 10,000,000. He then went home. On leaving, the right side of the chest was still quite solid. The sputum on admission and on discharge contained abundant tubercle bacilli. I saw his medical adviser three days ago, and he tells me that the patient is improving and that his pulse has dropped to 96.

I have at present in the sanatorium two similar cases. One of them is interesting from the retrospective standpoint, for in his case the pneumonic consolidation occurred ten years ago. At that time he was in bed three months and was off school 14 months. Since then he remained well until November, 1912, when he had a fresh outbreak. He was only admitted to the sanatorium on March 28th last, and his condition is quite good. The upper lobe on the left side shows extensive consolidation. Like the majority of these cases, he has very little sputum, but what there is is loaded with tubercle bacilli. As he has had a cough ever since his first attack, he would seem to have been very dangerous to his neighbours.

With regard to the above examples I should like to point out that both the two severe cases resulted from over-exertion in the early stage of pulmonary tuberculosis; secondly, that it was probably the massiveness of the consolidation which put a period to the acute symptoms, the massive consolidation greatly limiting movement, and at the same time greatly reducing the blood-supply. Furthermore, I am inclined to think that it is the massiveness of the consolidation which is the ultimate undoing of such cases. From experience I am led to believe that consolidation is the most difficult condition to cure of all the complications of phthisis, its seriousness depending on its extent. Where massive, tuberculin is unlikely to be of great benefit, though if given carelessly may well produce such a condition, for any immunity acquired by the administration of tuberculin is of necessity transitory, and efforts to break down and cause exfoliation of these masses are liable to produce calamitous results.

Personally, to me there seems [illegible] for giving diagnostic injections of old tuberculin, for in any case a focal reaction, though it may indicate active disease, by no means indicates that the disease was active until the tuberculin was administered, and because a focal reaction is not discernible it does not follow that the patient is therefore well. This is well shown in the second case mentioned by Dr. Galbraith. Doubtful cases may either be treated on general lines or tuberculin administered, commencing with small doses and gradually increased. It is, of course, well to remember that solid lung may be due to the pneumococcus and may clear up after appropriate vaccine treatment.

I can confirm what Dr. Galbraith says about the value of whispering pectoriloquy in this condition; all the above cases exhibited this in a marked manner. In addition, both these bad cases had a peculiarly unwholesome smell which remained as long as they were under observation.

I am, Sir, yours faithfully,
Edward E. Prest.

Ayrshire Sanatorium, New Cumnock, April 5th, 1913.

INSANITY AND DIVORCE.

To the Editor of The Lancet.

Sir,—With reference to the proposal that after a certain number of years' detention in an asylum insanity should form a plea for divorce, I would like to draw attention to a case in which recovery took place after 17 years' continuous residence.

A lady, aged 42, admitted March, 1896. Weight 7 st. Was in a condition of complete mental stupor, refusing to speak, eat, or make voluntary motion of any kind; catheter required to be passed, and bowels washed out by enemata. In May began to take food by herself; bowels and bladder acted normally. She was able to be up, but sat all day like a log, and was passively resistive.

In August underwent a course of thyroid treatment, but till October showed little or no change. She then began to improve in bodily health, though continuing dirty in her habits and persistently silent. At the end of 1898 had passed her climacteric; by this time she occasionally spoke a little, and she became much more correct in her habits. During the following ten years she slowly improved bodily and mentally, speaking freely, though in a somewhat childish manner, was able to do a little housework, sewing, &c., and by 1909 was to all appearances a typical case of mild terminative dementia. Weight 15 st. From this time, however, marked mental improvement took place. She gradually became active in mind and body, taking a keen interest in her own and outside affairs, and she was discharged recovered in March of this year.

I cannot see why insanity (unless wilfully concealed) should be pilloried as a plea for divorce more than any other illness, which is not directly due to evil living.

I am, Sir, yours faithfully,
J. Batty Tuke, Jnr., M.D., F.R.C.P. Edin.

Polton, Midlothian, April 7th, 1913.

IODOFORM INJECTIONS IN PULMONARY TUBERCULOSIS.

To the Editor of The Lancet.

Sir,—Some one has remarked that if all the remedies for tuberculosis were effectual it is difficult to understand why any person should die from it. Pending the establishment of a scientific basis for the therapeutics of this disease, I may, perhaps, be permitted to submit the results of my experience in six pulmonary cases treated by intravenous injections of iodoform. Of these cases one was acute, two advanced, and the remaining three early.

Of the advanced cases one died from intercurrent causes, the pulmonary symptoms having been considerably ameliorated. This case showed improvement in the physical signs in proportion to the dose and frequency of the iodoform administered. The acute case has, after 15 months' treatment, reached a condition of convalescence, tubercle bacilli are no longer to be found in the sputum, and there are no physical signs in the lungs. The remaining four cases show a regularly progressive improvement, and, in my opinion, are doing better than they would do under any other treatment that I know.

I am also using iodoform injections in a case of fœtid bronchitis in a man of 30, who before treatment expectorated daily about 10 oz. of stinking pus. After six weeks' treatment his expectoration has diminished by half, is clearer in colour, and free from smell.

I am, Sir, yours faithfully,
E. Curtin.

Bournemouth, March 25th, 1913.

THE WORKING OF THE NATIONAL INSURANCE ACT.

To the Editor of The Lancet.

Sir,—The importance at the present stage of National Insurance to the medical profession of settling the question of certification, alluded to in a leading article last week, heard before Mr. Justice Bailhache, is obvious. Instances can easily be imagined in which the point would arise. Counsel for the plaintiff, in the case on which the article was founded, suggested the example of a domestic servant in the house of an eminent physician who might well not be on the panel but who, equally reasonably, might be expected to attend his servant, and would certainly be medically qualified to give a certificate stating her incapacity and fitness for sick pay. There would also, no doubt, be cases which would tell the other way; for example, a medical man may be removed from a panel under Section 15, Subsection 2 B, of the Act, and no doubt the possibility of a sick insured person tendering the certificate of such a practitioner must be taken into consideration. Section 67 orders that "every dispute between an approved society, or a branch thereof, and an insured person who is a member of such society or branch relating to anything done or omitted by such person, society, or branch (as the case may be), under Part I. of the Act or any regulation made thereunder shall be decided in accordance with the rules of the society, but any party to any such dispute may in such cases and in such manner as may be prescribed appeal from such decision to the Insurance Commissioners." The Insurance Commissioners are, it may be noted, empowered to authorise referees to hear appeals or disputes submitted to them under this section, and there need be no delay in settling the case now at issue.

I am, Sir, yours faithfully,
Medico-Legal.

April 7th, 1913.

THE POSITION OF ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

To the Editor of The Lancet.

Sir,—At the present time, owing to a dearth of suitable candidates for the posts of assistant medical officers in asylums, statements have been widely circulated that a term spent in that capacity forms one of the best experiences a man intending to enter general practice can have. It is true than men spending a short time in this way have succeeded conspicuously in other walks of the profession, but I think it is probably not because of this experience but in spite of it. Before taking this step a newly qualified man would be well advised to inquire into the conditions of the service. He will find that he is practically cut off from all surgical work, and to all intents and purposes from medical work of any importance perhaps for years. In nearly all asylums even a minor operation requiring an anæsthetic is performed by an outside surgeon specially employed. In all large asylums the junior man is given medical charge of patients that practically call for no medical attention whatever—viz., the demented class; and when one of these becomes so indisposed as to require medical attention to any extent the senior assistants take the case out of his hands into the infirmary. Even here a great lack of medical atmosphere is apparent as in few asylum infirmaries is there any trained nursing as ordinarily understood, attention being largely concentrated on cleanliness, feeding, and the prevention of injuries, all very necessary in their way, but falling far short of the keen clinician's ideas for the treatment of the sick. The junior assistant will find a great part of his time taken up with purely routine visits to his wards, writing more or less formal notes about the uneventful lives of dements, and endeavouring to get through a much too abundant monotonous and irksome leisure with such games as may be at hand, or at best a very uninspiring dalliance with a microscope. The fact is that men should only enter the service, not as a training for wholly dissimilar work such as general practice, but with a view to making asylum work their career, and steps ought to be taken by the authorities to make it such. The large number of assistant medical officers in asylums with the extremely infrequent vacancies for superintendents leaves many an otherwise excellent medical man stranded, having had a training and environment for years almost completely out of sympathy with the rest of the profession and therefore greatly handicapped in taking his stand beside them if he gives up asylum work. *Initial salaries should have little weight with intending* candidates as subsequent advancement under present conditions is most uncertain, and indeed often a matter of luck.

I am, Sir, yours faithfully,

April 7th, 1913. REFORM.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The late Mr. Jordan Lloyd.

THE death of Mr. Jordan Lloyd, joint professor of surgery in the University, senior surgeon to the Queen's Hospital and one of the best-known exponents of his science and art in our city, has been a source of real regret in all circles.

Hospital Saturday Fund.

The annual report states that the total receipts for last year amounted to £22,842 2*s.* 4*d.*—viz., £22,610 2*s.* 1*d.* collected in factories and other establishments and £232 0*s.* 3*d.* interest allowed by bankers. This total is £901 19*s.* 6*d.* in excess of the previous year's collection and *constitutes another record.* The number of contributing firms was 2190, a decrease of 34. £10,000 were voted for distribution among the medical institutions of the city towards the cost of their free work. At the convalescent home for men, Tyn-y-Coed, near Llandudno, 1245 patients were admitted, and at the women's convalescent home, Marle Hall, near Llandudno, 1446 patients were admitted. 632 children and 106 women entered the Red House, Great Barr. The total number of patients dealt with was 3429 Since the Fund's first convalescent home was established, 21 years ago, 44,770 patients have been received. The benefit that in this way has accrued, not only to the subscribers, but to the city at large, is incalculable. Through the surgical aid department 904 articles were supplied during the year. Through this department patients can obtain reliable articles at minimum prices and can pay for them by instalments. Rheumatic patients have been sent to St. John's Brine Baths Hospital at Droitwich. The Cook Memorial Sanatorium for Consumptives, erected by the Fund, will be opened during this summer, and part of the building will very shortly be available for men. The coming into force of the Insurance Act [illegible] part [illegible] reco[illegible] tions under the Act should interfere with the Hospital Saturday Fund, as the benefits offered are quite distinct. In nearly all cases where collections were temporarily suspended they have already been recommenced.

The Birmingham Insurance Committee.

The Local Medical Committee has now been approved by the Insurance Commissioners, and the Local Insurance Committee has been completed by the election of the medical members. Since the Act came into force 1036 completed applications for sanatorium benefit were received up to March 14th, and the expenditure amounted to £6404 17*s.* Of the 1036 applicants, 930 have been examined and 775 passed for treatment. There has been great difficulty with regard to sanatorium accommodation, but circumstances will be altered when the city sanatorium at Yardley-road is completed. Thirty beds will be available this month at Romsley Hill Sanatorium, and in six months' time 100 beds. The results of treatment appear to be satisfactory, in most cases [illegible] ommittee. About 80 patients have been treated in their omes. A small subcommittee has been appointed to make rrangements for the provision of domiciliary treatment, the supply of drugs, and for tuberculin required by general practitioners.

Birmingham and Midland Skin and Urinary Hospital.

According to the annual report, 276 in-patients were treated last year as compared with 185 the previous year; and 6663 out-patients, as compared with 6768. The expenditure exceeded income by £584 13*s.*, this being partly accounted for by an increase in the hospital's supply of radium. A special radium fund has been instituted for which donations are requested.

April 8th.

BRISTOL AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

University of Bristol.

THE Bristol papers have published illustrations of the new buildings as they will appear when completed. The impression which these give is that the great tower will rather dwarf everything in its neighbourhood, but that it will at the same time be one of the finest pieces of modern architecture in the country. Certainly Bristol will be fortunate in adding so magnificent an adornment to her none too attractive streets. The controversy about the administration of the University drags its weary course along. Apparently Members of Parliament are accessible to those who are anxious to stir up trouble, for questions are being asked still in the House of Commons. The lecturer whose letters to the press are responsible for a prolongation of a controversy which would otherwise have died a natural *death has been relieved of his duties during the coming* summer term. He, however, claims the right of appearing before the council to defend himself.

Insurance Medical Service in Bristol.

The medical profession in Bristol has finally decided to continue the present panel service under the Insurance Act for the time being, instead of pressing for the changes contained in a scheme put forward by the Medical Federation, Limited.

Bristol Medical Dramatic Society.

A most successful week of performances has just come to a close. The society this year chose the *Manœuvres of Jane*, and though this was in some respects an ambitious flight, it was amply justified by the results. The cast was good throughout, though one or two familiar figures were missed, and the "houses" were most satisfactory. As usual, the performances were given at the All Saints' Hall.

The "Bristol Medico-Chirurgical Journal."

The March number of this quarterly journal is particularly interesting because it carries as frontispiece a portrait of Dr. R. Shingleton Smith, who retires from the editorship after 21 years of excellent service. His successor is Dr. P. Watson-Williams, who has had a long experience as assistant editor, a post now filled by Dr. J. A. Nixon, whose office as editorial secretary is in turn filled by Dr. J. M. Fortescue-Brickdale.

Bristol General Hospital.

The new wing, which is being built of reinforced concrete, is a source of considerable interest to Bristolians, who are not accustomed to this method The new laundry is already in use, and it is probable that the opportunity afforded by all these changes for an extension of the pathological department will be seized without delay.

The Health of Torquay: Decrease of Vaccination.

The medical officer of health of Torquay, Dr. T. Dunlop, in his annual report for 1912 states that the birth-rate was 14·5 per 1000, the death-rate being 12·2 per 1000. Dr. Dunlop says that the district was formerly an exceptionally well-vaccinated one, but now it had become poorly vaccinated. The conscientious certificate exemptions in 1907 were 30, but in 1911 they numbered 230. He adds that if a small-pox epidemic should occur it will cost a considerable sum of money, and cause the district to be avoided by all who can afford to do so.

Taunton Rural District.

The medical officer of health of the Taunton rural district, Dr. H. J. Alford, in his annual report for 1912 states that the death-rate was 11·7 per 1000. The birth-rate amounted to 15·4 per 1000. Infantile mortality was at the rate of 79·4 per 1000. During the year 43 notifications of infectious diseases were received, and of this number 14 were of pulmonary tuberculosis. Dr. Alford states that a tuberculosis dispensary has been opened at Taunton. In alluding to the danger of using milk from tuberculous cows, he says that the number of infected cows in the county of Somerset was very large, but no doubt much could be done by future legislation to counteract this evil.

Somerset Education Committee and the Dental Treatment of School Children.

At the last meeting of the Somerset education committee it was stated that it was practically impossible to get the school managers to grant a fixed sum for dental services for the school children, as out of 494 schools in Somerset only 94 had done so. It was decided that when the present temporary appointment of the dental surgeon had terminated he should be reappointed at a salary of £300 per annum, exclusive of travelling expenses.

Death of Dr. Herbert Stanley Jenkins.

News has been received of the death of Dr. Stanley Jenkins, a former Bristol student, who was distinguished not only by academic success, but also by personal charm. His death occurred at the early age of 38, at Sianfu, in Central China, where he was working as a medical missionary. Sianfu was a storm centre during the recent revolution, and though Dr. Jenkins escaped the perils that beset his colleagues owing to his absence on furlough, he was indirectly a victim of the same catastrophes; for the outbreak of typhus fever to which he apparently succumbed is no doubt traceable to the exhaustion of the city population by fire, sword, and famine. Another of his colleagues, Dr. Cecil F. Robertson, has been carried off by the same outbreak.

April 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The "National Health Week."

THE "National Health Week" is being celebrated in Dublin by a Health and Housing Exhibition held in the gardens of the Rotunda Hospital. The exhibition was opened last Monday by His Excellency the Lord Lieutenant, and on Tuesday a lecture on "Food" was delivered by Professor W. H. Thompson. The housing section shows a number of model cottages suitable for country districts, and also exhibits plans and maps suggestive of improvements in town planning. There is a section for the treatment of the tuberculous, which contains a model tuberculosis dispensary and also a milk depôt with pasteurising plant. Another feature is a dental clinic, such as is suggested for primary schools. The management of the exhibition is in the hands of the Women's National Health Association. In various provincial towns "Health Week" is being observed by courses of lectures on health subjects.

Royal College of Physicians of Ireland.

At a meeting of the President and Fellows of the Royal College of Physicians of Ireland held on April 4th the following were duly elected Fellows of the College:—Mr. Albert Croly, Rathfarnham; Dr. Robert J. Rowlette, Dublin; and Captain W. Porter MacArthur, R.A.M.C.

The Certification Scheme.

The one topic of interest in medical circles in Ireland during the past week has been the scheme for medical certificates put forward by the Irish Insurance Commissioners. A meeting of the medical profession of Dublin was held on March 28th at the Royal College of Surgeons, and after heated discussion was adjourned to April 2nd. After further debate a resolution was passed rejecting as totally inadequate the terms offered by the Commissioners for certification, declining to join the panel unless and until the minimum terms agreed to at the general meeting of the profession in Ireland are conceded, and calling on all medical practitioners in the district to adhere to this resolution. Only some 11 medical men had at the time of the meeting put their names on the panel for the City of Dublin, though there are about 500 practitioners living in Dublin or its immediate neighbourhood. The attitude of medical men throughout the country is the same as that of their colleagues in Dublin. Only in three county boroughs and in two or three counties have the panels filled. The scheme of the Commissioners is, therefore, an almost unqualified failure, though they took extraordinary measures to gain acceptance for it. Not content with claiming without authority the approval of the Conjoint Committee and of the Insurance Committees, the Commissioners extended the time for going on the panels by a week, and the Medical Commissioners, by means of an interview with a representative of one of the morning papers, took especial pains to clear away certain misunderstandings which had naturally arisen from the slovenly drafting of the contract which medical men were asked to sign. At a meeting of the Poor-law Medical Officers' Subcommittee of the Irish Medical Association held in Dublin on April 3rd, resolutions were unanimously passed condemning the action of the Commissioners, and promising the strongest opposition.

Belfast Medical Men and Medical Benefit.

A very largely attended meeting of the medical practitioners of Belfast was held in the Medical Institute, Belfast, on April 2nd, Sir John W. Byers being in the chair. Mr. T. A. Davidson, who acted as convener, gave an account of the conference between the Conjoint Committee and the Treasury Medical Committee (THE LANCET, April 5th, p. 992) in regard to rates of remuneration under the proposed extension of medical benefits to the six Irish county boroughs. After a very full discussion the following resolutions were passed:—

1. That this meeting of medical practitioners resident within the county borough of Belfast approve of medical benefits under the National Insurance Act (1911) being extended to Ireland on the following terms: a capitation fee equal to that paid for insured persons in Great Britain—i.e., 7s. for each insured person per annum, including the treatment of tuberculosis, but excluding medicine and surgical appliances.
2. That this meeting of the medical practitioners in the county borough of Belfast are strongly opposed to treat dependents under the National Insurance Act.

It was also decided that the delegates appointed to represent the Belfast medical practitioners at the conference to be held in London should not agree to any other terms. Mr. Davidson and Dr. G. Elliott were appointed the representatives of the Belfast medical profession to the conference to be held in London with the Treasury Committee and the Friendly Societies. It appears now that there are in Belfast 143,000 insured persons.

Ulster Hospital for Women and Children, Belfast.

At the annual meeting of the supporters of this hospital held on April 3rd it was reported that during the past year there were 196 children, 89 women (gynæcological), and 2 women (maternity) admitted into the wards; while in the outpatient department 2363 (including 343 in the ophthalmic department) children, 680 women (gynæcological), and 270 women (maternity) were treated. Financially there was a balance in favour of the hospital of £63 11s. 7d., which added to the balance from 1911 of £210 14s. 6d., gives a balance forward to 1913 of £274 6s. 1d.

Liability of Consumptives.

At co. Monaghan quarter sessions on April 5th hi honour Judge Johnston delivered judgment in a case o unusual interest which had been heard at the last sessio A boarding-house keeper of Rostrevor, a health resort in c Down, sued a merchant in Monaghan, executor of the of a man, for injuries committed by that individu (deceased) when residing as a lodger in her house in Jun 1912, the allegations being that he infected the house an furniture with a contagious disease—pulmonary tuberculo- His Honour gave a decree for the full amount of th plaintiff's loss through the disinfection of the room and th destruction of some of the articles, and a further sum of for the loss of lettings, making altogether £16 4s. 2d.

April 8th.

ROYAL METEOROLOGICAL SOCIETY.—The annu dinner of this society will be held on May 20th at t Trocadero Restaurant, Shaftesbury-avenue, Piccadilly Ci All communications should be made to Mr. W. Mari Assistant Secretary, at 70, Victoria-street, London, S.W.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Tobacco Angina.

M. Fiessinger discussed before the Academy of Medicine on April 1st the part played by tobacco in the serious effects of angina pectoris. Certain anginal neuralgias are induced by tobacco, but they are benign in character and disappear with the [illegible] fatal cases syphilis must be [illegible] related three cases in which [illegible] led to mercurial treatment, which was followed by immediate improvement, after all other remedial measures had failed. The diagnosis of serious tobacco angina—*angine scléro-tabagique*, as Huchard called it—cannot be admitted unless syphilis has been previously excluded.

Biology and the Kinematograph.

At the Société de Physique M. Guillaume recently discussed the application of the kinematograph by Dr. Comandon, not merely for recording the movements of large organs, such as the heart, but also for following the life process up to its ultimate manifestations. By its means, he reminded his hearers, the circulation and the intimate mechanism of respiration can be demonstrated; the life phases of bacteria can be followed step by step, their mode of locomotion fathomed, and their struggle with the organism witnessed. By a retarded movement of the kinematograph, taking only one picture every minute, and then causing the film to rotate at the ordinary speed, the development of a seed, the growth of a flower, the metamorphoses of a larva, can be followed. The prospect is captivating, and the retarded kinematograph is undoubtedly a most useful means of instruction. Finally, a particular experiment in animal physiology can be made once for all, and where this can be done by means of the kinematograph the experiment can be repeatedly demonstrated to students.

Surgical Intervention in Tuberculosis Peritonitis.

M. Kirmisson considers surgical intervention indicated in certain cases of tuberculous peritonitis, in support of which view he cited many examples before the Société de Chirurgie on April 2nd. While performing a laparotomy in a case of intestinal occlusion he found, besides an intestine perforated by tuberculous nodules, two bands of adhesion which kept the intestine kinked. He divided them and kept the patient, who was cured, under observation for a year. This happened also in another case. At other times it was not bands but an agglutinated mass which caused the occlusion, and in such a case operation is ineffective, as he had found by trial. M. Léjars said that he had occasion to operate in a certain number of cases. In one case that presented all the signs of [illegible] cured. M. Léjars then recalled that there are in some forms of peritonitis pseudo-occlusions often simulating appendicitis Merely opening the abdomen suffices to overcome such conditions, which are due only to acute localised peritonitis. Finally, M. Quénu added the testimony of cases from his own practice in support of surgical intervention.

Vaccination against Anthrax.

M. Roux has brought before the Académie des Sciences the results of the work of M. Declainche and M. Vallée, who for 12 years have been pursuing systematically the study of vaccination against anthrax, with the result that they have been able progressively to improve on the technique of their first operation. They have now made public a process that enables them to produce really attenuated strains of the bacillus anthracis, strains that it has hitherto been impossible to obtain. Vaccines prepared therefrom ensure, with a single vaccination and without any risk, the perfect immunisation of animals exposed to infection. As 345,000 cattle have been vaccinated by this method with complete success in the past three years, the authors consider the problem of vaccination against symptomatic anthrax definitively settled.

Impure Salt.

M. Andouard has been studying salt, which the bacteriologists consider a veritable hotbed of microbes of all kinds and a possible source of more or less severe infections. M. Andouard first showed that sea water near the shore, and consequently in the immediate vicinity of the salt-beds, contains considerable quantities of bacteria, of which the preliminary clarification beds favour the multiplication. This naturally is augmented by the raking of the beds with unclean instruments and the feet of the waders. The grey salt used for cooking and baking is of this kind. The fine salt is less rich in harmful germs, though not entirely exempt. In spite of the re-dissolving and clarification of the [illegible] Ermengem found the bacillus botulinus, a cause of very grave intoxications M. Andouard concludes from his observations that salt is a substance more or less impure from both the chemical and the bacteriological points of view, and that serious measures are called for refining, sterilisation, and clean packing—to put an end to the disorders that may be caused by this product.

April 7th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

The Calcutta Swamp.

THE state of the Calcutta streets during rain recalls the fact that the city was built upon a swamp, and is consequently condemned to suffer whenever a few inches of rain fall. In the monsoon the subsoil water is but a few inches from the surface, and the only means of remedying the effect of the excess of water from below and above would be an unusually extensive drainage scheme. The chief engineer has shown in the course of a lengthy note how the existing drainage of Calcutta has become too small for the work forced upon it by the growth of the city. The remedy is obvious, but the means of carrying it out by no means springs so readily to the eye.

Physique of Educated Indians.

An article appears in the February *Wednesday Review* from the pen of the Hon. Dr. T. N. Nair on the Physical Degeneration of the Educated Indian. Dr. Nair attributes this degeneration to early marriage, malnutrition, injurious environment, and overstudy, and advocates medical inspection and feeding by the State of all school children.

The Supply of Hospital Nurses in India.

The report of the Lady Minto Nursing Association, which shows that the association is continuing and gradually extending its sphere of usefulness, has just been issued. During the year the nursing sisters throughout India attended some 514 cases, 309 of which were medical, 68 being cases of enteric fever, 96 maternity cases, and 40 infectious cases. 138 applications for nurses had to be refused owing to no nurse being available. The highest number of cases attended in any previous year was 477 in 1910. During 1912 the number of non-subscribers' cases attended was 184, and the fees realised from these cases amounted to Rs. 17,166. The total subscriptions received during the year amounted to Rs. 38,730, and the total fees to Rs. 48,104, there being in all 1608 subscribers. During the year 10 nurses were sent out to India, all except 2 of them having received their training at London hospitals.

Dr. T. F. Pearse, late Medical Officer of Calcutta.

Dr. Pearse, having retired from his post as medical officer of health of Calcutta, is leaving here and will arrive home probably about the end of May. At a special meeting of the Calcutta Corporation, held at the Central Office on March 5th, a resolution was passed placing on record its high appreciation of the services which Dr. Pearse had rendered to the city and expressing its regret that reasons of health had rendered his resignation necessary. Dr. Pearse, who has been connected with the Calcutta Corporation for 15 years, has been its health officer for six years, and has done excellent work during his term of office.

King George V. Anti-Tuberculosis League, Bombay.

This League, which, under the presidency of Lord Sydenham, the Governor of Bombay, and a distinguished committee, was formed to commemorate the Coronation Durbar and the visit of their Imperial Majesties, the King Emperor and Queen Empress, to this country, has issued a plan of campaign and made an earnest appeal for contributions. The plan of campaign includes the notification of the disease, the establishment of tuberculosis dispensaries, the education of the people, the medical inspection of school children, the supervision of milk and food supplies, and the general relief of distress caused by the bread-winner of a family developing consumption. The scheme is therefore a very comprehensive one and if it can live up to its programme should materially benefit the province, especially as it is the intention of the league to emphasise the importance of the establishment of hospitals for advanced cases, of sanatoriums and farm colonies, of open-air schools and homes for cripples, and the segregation of infected purdah women in suitable institutions, these institutions being provided for and maintained by municipal bodies or outside philanthropic agencies with or without Government aid. Towards the general scheme Mr. Ratan Tate has promised to contribute Rs. 1,50,000, the Government of Bombay an annual donation of Rs. 19,000 for three years, and the municipal corporation of Bombay has sanctioned a similar amount for the same period, while several commercial firms have promised assistance. It has also been arranged that there should be an enrolled list of annual members and life members paying a subscription of Rs. 5 and Rs. 100 respectively. Dr. J. A. Turner and Dr. N. H. Choksy are the honorary secretaries.

King Edward VII. Memorial Sanatorium at Lotni, Bhawali, Naini Tal District.

Major A. W. Cochrane, I.M.S., the superintendent of the sanatorium which was raised as a memorial to the late King by the people of the United Provinces, has issued his report for 1912. Up to Dec. 31st 54 patients were admitted, comprising 45 males and 9 females, the percentage of those giving a history of tuberculous lung disease in near relatives being 55 per cent. Of 36 patients who left the sanatorium during the year the average stated length of illness before admission was 388 days. The average stay of the patients in the sanatorium was 81·44, the maximum being 183 and the minimum 17 days. The result of the treatment, not including 6 cases which stayed less than 1 month, was as follows: in the first and second stages (11 cases) no deaths, 1 not improved, 1 improved, 2 much improved, and 7 disease arrested. In stage three (19 cases) 1 died, 5 not improved, 4 improved, 5 much improved, and 4 disease arrested. This gives 63·63 per cent. of cases of arrested disease in stages 1 and 2 and 21·05 per cent. in stage 3.

The Viceregal Lodge Fund for the Turkish Army.

A sum of Rs. 21,842-7-3 was sent to Constantinople on behalf of Her Excellency Lady Hardinge's Fund for the relief of the women and children of Turkish killed and wounded. This sum has now reached its destination, and, with the permission of Her Excellency, has been added to Lady Lowther's Fund, which deals with the absolutely destitute women and children who have lost their all owing to the war. There are at present 15,000 refugees entirely dependent on Lady Lowther's Fund, of whom 6000 are the families of the Turkish soldiers—dead, wounded, or lost—and it is for the maintenance of these that Lady Hardinge's Fund has been utilised. The Turkish Government has in most cases been able to provide housing for them, but they are entirely dependent on charity, I understand, for all the other necessaries of life. They are now being supplied from the Fund with bread, charcoal, bedding, and garments, and in some cases with milk, rice, medicine, and beans.

The Ghent Exhibition.

Surgeon-General Sir A. M. Branfoot will represent the Government of India at the Ghent International Exhibition of Tropical Diseases, which has been fixed for the spring. Exhibits relating to malaria, kala-azar, cholera, and small-pox are being collected for inclusion in the British collection for the Exhibition.

Bangalore Improvements.

As a result of the inspection late last year by Major J. C. Robertson, I.M.S., of the sanitary requirements of the civil and military station of Bangalore, the Government of India have now sanctioned a special grant of four lakhs of rupees (£25,000 sterling) to be expended exclusively on sanitation. This will include further relief of congestion in the general bazaar by the demolition of insanitary dwellings, compensation for road opening, and new tenement extensions.

Plague at Jhelum.

Plague has broken out in the city of Jhelum. During the last few days about half a dozen men were taken ill, and all of them succumbed to the disease. At first the disease remained confined to the upper part of the city, but now it is spreading to the other parts. The first case took place in the sweepers' huts, but now it has extended further. Dead rats are being thrown into the streets by the people, a practice that should be stopped at once. In consequence of this outbreak the Jhelum cantonment is placed out of bounds.

The Dangers of Petrol.

An unfortunate accident illustrating the danger of using petrol for cleaning purposes occurred in Lahore recently. A lady had cleaned a pair of gloves with petrol early one morning, and after doing so hung the gloves up in the verandah. In the afternoon when going out she put on the gloves, and was just leaving her drawing-room when she noticed that the fire needed attention. She picked up the poker and stirred the fire, when her gloves suddenly burst into flames. She had the presence of mind to thrust her hands under a heavy rug which was handy, but both hands being burnt she was unable to press the rug down on them. It was some time before the flames were extinguished, and the lady's arms were severely burned. It is worth while to call attention to this case because there is a very general impression that the small amount of petrol used for glove-cleaning, &c., evaporates rapidly, and that a very brief time is sufficient to prevent all possibility of danger. In this case the gloves had been hanging for several hours in the open air before they were used, but enough petrol remained in them to cause a serious accident.

The Madras Water-supply.

The Government of India has submitted for sanction to the Secretary of State a project for a reservoir connected with the Madras water-supply which is estimated to cost 20½ lakhs of rupees.

Karachi's Water-supply.

In a recent report the chief engineer of the Karachi municipality shows that for an expenditure of about 6 lakhs of rupees he can provide for all the reasonable requirements of Karachi for the next ten years. For the more distant future there is a project for damming the river Malir about 29 miles away, which will guarantee a practically unlimited and inexhaustive supply. It remains for the municipality to deal with the financial aspects of the situation.

March 14th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Health of the Australian Navy.

THE report for last year states the strength of the navy at 14 vessels, carrying 3450 men. The number of cases of disease and injury entered on the sick list was 2691, which was an increase of nearly 50 per cent. on the average for the previous five years. The invalidings numbered 56. There were 13 deaths. The average number of daily sick was 80·7. The increase in the sick list was due to minor ailments, and the venereal statistics were said to be satisfactory.

Maternity Bonus.

The Commonwealth maternity bonus has now become very generally claimed, and it is estimated that the first year's payments will total over £600,000. The first prosecution for making a false return was heard in Victoria, and the accused woman was fined £10 and ordered to return the amount of the bonus. The mother had obtained it by forging the nurse's signature.

New South Wales Public Health Department.

Dr. J. Ashburton Thompson has retired from the position of principal Government medical officer and President of the Board of Health. Dr. Thompson has done good work during his occupancy, and is recognised as a leading authority on leprosy and bubonic plague. It was owing to his work in Sydney that bubonic plague became definitely recognised as a disease of rats, and probably conveyed to man by means of fleas. His retirement will be made the occasion of a rearrangement of the work of the department. The position of Government medical officer will be taken by Dr. O. Paton. At present there are three separate departments of microbiology, public health, and hospitals and charities. It is proposed to amalgamate these under one head. The medical inspection of schools will be made a separate department Dr. F. Tidswell has resigned his position as director of the Bureau of Microbiology.

Australian Association for the Advancement of Science.

The section of sanitary science and hygiene at the recent Congress of the Australian Association for the Advancement of Science recommended —

That a sanitary committee be formed to report on the sanitary control of small towns and rural districts, that medical officers of health should have special [illegible]
be whole time officers,
should be appointed, t
and sanitary science be
Governments of Austra
ference of chief medic
measures for control of tuberculosis in cattle and pigs

Insane Immigrants.

The Inspector-General of Insane for Victoria (Mr J. Jones) has drawn attention to the number of immigrants received into the lunatic asylums, a feature which has been noted also in America Mr Jones has been asked by the Government to furnish exact information on the subject.

Medical Inspection of School Children

The report of the Victorian school medical inspectors states, *inter alia*:—

r school children
in this particular
beginning in the
alnutrition occurs
from 3 per cent
5 per cent —i e,
o attempt has yet
children A large
r—of the children examined
other indications of rickets
ond with those of previous
shion, the statement that a
defect and disease occurs in
in the elementary schools is
any errors have arisen from

tuberculosis, is, however, only occasionally seen Anæmia, as shown by distinct pallor and malnutrition, is as frequent in boys as in [illegible] hool pupils Skin
scabies and ring

endemic

Vital Statistics of Victoria

The report for 1912 of the Government statistician states —

The number of marriages—11 738—exceeded by 650 the total for the preceding year and the resulting marriage rate—8 66 per 1000 of population—was the highest experienced in the State for 52 years The births numbered 35,817, of which 16 879 occurred in Greater [illegible]

death rate was the highest for nine years The deaths of children under one year of age numbered 2669 for the whole State and 1523 for the metropolis, as compared with 2270 and 1139 respectively in 1911 There was a fairly large reduction in the death rate from tubercular [illegible]

A Large Family

A woman at Katoomba, New South Wales, recently registered the birth of her twenty-fifth child She walked a distance of three miles to the registrar's office, carrying the child, on the fifth day after its birth.

Personal.

Professor H. B. Allen has returned to Melbourne after an extended holiday in Great Britain and Europe, and resumed his duties at the University.—Dr. G. Rothwell W. Adams has resigned his position as surgeon to the Women's Hospital, Melbourne, after holding it for a period of 25 years Dr. Adams is lecturer on obstetrics and gynæcology in the University of Melbourne —Dr. G. C. McK. Mathison, a Melbourne graduate, who has for some years been engaged in research work at the Lister Institute, will return to take up a position at the Melbourne Hospital in August next.

March 8th.

Obituary.

SAMSON GEMMELL, M D, C.M. GLASG., F R F P & S GLASG,

PROFESSOR OF THE PRACTICE OF MEDICINE IN THE UNIVERSITY OF GLASGOW, PHYSICIAN TO THE WESTERN INFIRMARY AND CHILDREN'S HOSPITAL, GLASGOW

THE medical profession and the general public of Glasgow and the West of Scotland have suffered a great loss in the death of Professor Samson Gemmell, of the chair of Practice of Medicine in the University of Glasgow. Dr Gemmell was apparently in good health up to a few hours before the sad occurrence, which took place at his residence, 17, Woodside place, on April 4th At the beginning of the week he presided at the meeting of examiners for the final examination in medicine at the University. On the day of his death he paid his customary visit to the Western Infirmary, and there were no indications of approaching illness at that time. Three hours after leaving the infirmary he became unwell, and expired in his own house before medical assistance could be rendered. Death was due to heart failure

Dr Gemmell was born in 1848 in Catrine, Ayrshire. He studied medicine in the University of Glasgow, where he graduated M B, C M with honours in 1872 and M.D. in 1880. In 1880 he also became a Fellow of the Faculty of Physicians and Surgeons of Glasgow After completing his medical curriculum he became a resident physician in the Royal Infirmary, and also acted for a short period as demonstrator of anatomy He then became medical superintendent of the City of Glasgow Fever Hospital, after which he started in consulting practice. He was appointed assistant to the professor of medicine in the University, a post which he held till 1880, when he was appointed to the chair of practice of medicine in Anderson's College Medical School In the year 1900 Professor McCall Anderson was transferred from the chair of clinical medicine to that of practice of medicine in the University, and Dr Gemmell was appointed by the University Court to the chair of clinical medicine He held that chair till 1908, when on the death of Sir Thomas McCall Anderson he was appointed by the Crown to the chair of practice of medicine, which he has since held Dr Gemmell in the early stages of his career was a dispensary physician in the Western Infirmary In 1886 he was appointed physician to the Royal Hospital for Sick Children, and in 1887 physician to the Royal Infirmary From the latter post he was transferred in 1894 to the Western Infirmary During his life he built up in Glasgow a great reputation as a teacher and a medical consultant He was admired and respected by all for his medical knowledge, his sound judgment, and his intellectual honesty, and his kindness of heart and friendly interest endeared him to all who came in contact with him.

Dr Gemmell was a sparing writer, and contributed little to medical literature Early in his teaching career he wrote an excellent chapter on Physical Diagnosis of Diseases of the Chest and Abdomen for the second edition of Finlayson's Clinical Manual; but this was almost his only published work

Dr William R Jack sends the following appreciation:

"By the death of Professor Samson Gemmell the University and the medical profession of Glasgow have lost one of their most striking personalities He was the last of an epoch; a man in whom were all the virtues of the older school of medicine, based upon wide clinical experience and a quick insight into the nature of disease He was not neglectful of detail, but he had the happy faculty of selecting from among the details of a case the points which were most essential to its comprehension, and of so emphasising these in his demonstration of it that the malady formed a picture not soon to be obliterated from the recollection of his hearers. In his systematic lectures his method was the same, but it was at the sick bed, where his students were closely gathered round him, that it was seen to its fullest advantage, and that his graphic and incisive eloquence most firmly riveted their attention. They played no mere passive part in his demonstrations. His penetrating questions and his caustic comments, if they caused dismay among the laggards, yet spurred the better men to the best that was in them. His hold upon his auditors was strengthened by the fact that he had no more mercy for his own errors than for theirs. Where his diagnosis had been at fault he never sought to hide or palliate the mistake; rather he insisted upon its lessons both for himself and for his students. His personality was masterful, and though his criticism might at times be harsh, those who knew him knew that it was equal, and that he had not two measures. Such honesty, coupled with such diagnostic skill, soon commanded confidence, and at the time of his death he had the largest consulting practice in the West of Scotland. It contributed to this result that he was intensely human, that a patient was to him no mere diagnostic problem but a piece of suffering humanity whose weakness might lean upon his strength. In his wards, as in private, his patients drew vitality from him, and to young and old he was alike a friend. The characteristics thus briefly indicated distinguished him in private as in his professional career. He was a man of wide reading and broad culture, to whom, though when he pleased there could be no more charming companion, a book was as much a friend as a person. He had strong opinions, and he was fearless of criticism. He was outspoken in advocacy, as in condemnation; if he made enemies he had also firm friends, loyal to him as he was loyal to them. He hated anything mean, and cant was the chief object of his hatred. The generations of students who came under his influence learned from him not medicine only, but straightforwardness, courage, and fidelity to truth."

JORDAN LLOYD, M.S. DURH., M.D., M.SC. BIRM., F.R.C.S. ENG.,

PROFESSOR OF SURGERY IN THE UNIVERSITY OF BIRMINGHAM; SENIOR SURGEON TO QUEEN'S HOSPITAL, BIRMINGHAM.

WE regret to record the death on April 4th of Professor Jordan Lloyd, the eminent Birmingham surgeon. He died—as he would have wished to die—in harness, for his fatal attack of angina pectoris came on after a morning's operation at Queen's Hospital. His loss will be widely felt in Birmingham and throughout the Midlands.

Jordan Lloyd was born in Birmingham in 1853. He was educated professionally at the old medical school of Queen's College, Birmingham, and at the University of Durham. After qualifying at the Society of Apothecaries in 1877 he obtained the Membership of the Royal College of Surgeons of England in the following year, and the Fellowship two years later, when he also took the M.B. and M.S. degrees of the University of Durham. Shortly after the foundation in 1900 of the University of Birmingham Mr. Jordan Lloyd received the degrees of M.B., B.Ch., and M.Sc. from that body, and in 1904 the M.D. degree of Birmingham was conferred upon him.

His long connexion with the visiting staff of Queen's Hospital began at the end of 1880, when he was appointed casualty surgeon. Two years later he was promoted to be surgeon, and this post he held with distinction for the remaining 30 years of his life. During this time he steadily built up a high reputation as an operative surgeon and as a teacher, and his appointment as co-professor of surgery in the university of his native city was a well-deserved honour. From 1883 onwards Mr. Jordan Lloyd wrote frequently on surgical subjects, and between 1887 and 1897—the years of his greatest literary activity—numerous papers from his pen were published in THE LANCET. Besides his appointment at Queen's Hospital Mr. Jordan Lloyd was consulting surgeon to a number of local institutions. He was a justice of the peace for the city of Birmingham, a lieutenant-colonel in the Royal Army Medical Corps, Territorial Force, and officer commanding the 1st Southern General Hospital, South Midland Division.

Professor Robert Saundby sends the following appreciation: "I have known Mr. Jordan Lloyd since he came to the General Hospital as resident surgical assistant in 1876. I was much impressed by the ability he displayed, and I had some conversation with him about his education, urging him to try for higher qualifications, as he had not entered for the first Fellowship or the London M.B. He told me his father thought it was unnecessary, and as it was his intention to join his father's practice he should only try for the ordinary diplomas. However, his own and probably his father's views became modified by his wonderful success as a student, and he was undoubtedly encouraged greatly by his teachers, the late Mr. Sampson Gamgee, by Mr. J. Furneaux Jordan, to both of whom he always expressed himself as owing much, and by Mr. Lawson Tait, who early appreciated his surgical talent. I watched his progress with sympathy, and although others better qualified can express what was thought of his originality and skill as a surgeon, I saw enough to show me that he stood in the front rank as an operator, bold in resource and marvellously capable of carrying out his carefully devised plans. His almost boyish enthusiasm for his work lasted throughout, and enabled him to overcome the disadvantages of a frame never robust and of the ill-health that weighed him down during recent years. He was a charming speaker, with something to say that was always fresh, and no man enjoyed greater popularity as a teacher and consultant; in both these capacities he will be greatly missed. He was of a singularly affectionate disposition and possessed a winning manner which gained him many friends and softened his relations with those who at times differed from him in policy. His domestic life was especially happy. His last words were highly characteristic of the man: 'What shall I do? I shall have to give up my work.' He lived for his work; he could not take holidays; when he went away he fidgeted all the time and wished himself back at work. Although he had been warned of the dangerous nature of his recent attacks he would not reduce his work. He did four or five operations on the Friday morning, and unfortunately one of the patients, a child, stopped breathing. He performed artificial respiration himself, and had the satisfaction of seeing it recover, but it is only too probable that he gave his own life in exchange. He drove home in a cab, but on arrival he collapsed. He lay down on the hearth-rug in front of the dining-room fire and had a terrible anginal attack which was relieved by amyl nitrite. He sat on the sofa, but after a short interval he complained of a return of the pain, drew two or three deep breaths, and died before medical assistance had arrived."

Professor Gilbert Barling writes:—"Mr. Jordan Lloyd was a very brilliant surgeon, especially as a manipulator—bold, quick, and very ready in any difficulties. He had above all things a most keen and vivid interest in his work. It was not merely a matter of earning an income or holding an office. The study of disease in itself and the opportunity to relieve it was to him a real gratification and an ever-present interest. He was a very fine teacher and lecturer, and the address in Surgery which he gave at the meeting of the British Medical Association in Birmingham in 1911 was a brilliant performance. In his earlier days, when, of course, he had more leisure, he made a number of interesting inquiries and researches into various forms of surgical disease, and the papers he wrote at that time are still quoted as authoritative on the conditions of which they treated. It has been a matter of great regret to his friends and colleagues during the last few years that his health has seemed to be rather strained, and that he was not always able to do himself full justice. He will be long and affectionately remembered as a brilliant son of the Birmingham School of Medicine."

ALFRED CHUNE FLETCHER, M.R.C.S. ENG.

THE death has been announced of Alfred Chune Fletcher, surgeon to the Charterhouse, which occurred on March 30th. A large circle of friends and patients have learned the fact with great concern.

Alfred Chune Fletcher started life as a journalist, and his language, written or spoken, was always so selected, lucid, and to the point, that his literary training might have been guessed. He did his student's work at St. Bartholomew's Hospital in the late "seventies," and was house surgeon to Sir William Savory in 1881–2. He was well equipped in all branches of his profession, his thoroughness and close attention to details being combined with a keen therapeutic instinct. His practice was large outside his constant duties at the Charterhouse and the Merchant Taylors' School, where his straightforward and sympathetic manner won for him complete confidence, and he was concerned with many important patients. He was able to convey the true impression of his one object—which was *to do all that was possible for the best interest of the* patient. He thus represented in the eyes of those who knew him a typical picture of a sagacious practitioner.

"I shall be glad," writes a correspondent, who desires to remain anonymous, "if you will allow me to place on record a recognition of Mr. Fletcher's admirable qualities as resident medical officer at the Charterhouse, a position in which he was not only medical adviser to some 60 or so old men, often troubled with ill health, but also their official superior, and at the same time head of a medical service which embraces a fair number of nurses. Over all these people he might have ruled with sternness, but he appears invariably to have been gentle and most considerate, rendering many an act of kindness, and careful to spare with a gentleman-like instinct that does him honour the self-respect of the poor men subjected to his rule. The result, so I find, is, both among pensioners and among nurses, a high regard for his memory, genuine sympathy with his family, and gratitude that should stand for something when the great account comes to be cast up:—

Qui bene fecerunt, illi sua facta sequuntur."

Mr. Fletcher leaves behind him a wife, who has long been an invalid, and three daughters, two of whom are married.

GEORGE TEMPLETON, M.B., C.M. EDIN., F.R.C.S. ENG.

THE tragic death last week of Mr. George Templeton at the early age of 41 while ski-ing in Norway removes a prominent man from the list of the younger surgeons practising in London.

He was a native of Kilmarnock, and when quite a boy *proceeded to Edinburgh University and attended all the* necessary classes for qualification a year before the legal age for taking the University degree. In 1892 he graduated M.B., C.M. Edin. (with honours), and the same year took the English qualifications of M.R.C.S. and L.R.C.P., taking in 1896 also the surgical Fellowship. For some time he held the appointment of surgeon to the North-West London Hospital. As surgeon to St. Barnabas Home, Lloyd-square, *he did excellent work, and his charitable labours* there will be long remembered with grateful affection. He kept abreast of all the advances in modern surgery, and devoted considerable time to the study of general science and literature. He was a very proficient linguist, speaking German, French, and Italian fluently, and knowing something of other European languages, while he was passionately fond of music and played various instruments.

Mr. Templeton had a strong physique and was very fond of all outdoor exercises. Not long since he walked round the island of Arran, a distance of 60 miles, in one day. His death has come as a severe loss to many friends and patients.

HERBERT McDONALD PHILLPOTTS, L.R.C.P. LOND., M.R.C.S. ENG.

Mr. Herbert Phillpotts, who died at Nice on March 20th in his forty-eighth year, was educated at Plymouth and King's College School, London, and St. Mary's Hospital, and qualified L.R.C P. and M.R C.S. in 1890. He was a keen sportsman and had travelled considerably, though he was as devoted to Dartmoor as is his brother, Mr. Eden Phillpotts, the well-known author. [illegible]
Dartmouth and K [illegible]
left Kingswear an [illegible]
Phillpotts had ma [illegible]
there at his early death.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Paul Ascherson, extraordinary professor of botany in the University of Berlin, aged 78. In early life he had been a *general practitioner,* but lately had devoted himself entirely to botanical studies.—Dr. E. Schiff, *docent* of dermatology in the University of Vienna.—Dr. Alfred Genzmer, extraordinary professor of surgery in the University of Halle.—Dr. Arnold Heller, professor of pathological anatomy in the University of Kiel.

THE NATIONAL INSURANCE ACT.

THE INSURANCE ACT AND THE SUPPLY OF DRUGS.

MEDICAL benefit under the Insurance Act has now been in operation for a sufficient time to make it possible to form an idea of the effect of the Act upon the business of pharmacy. Especially in industrial centres, where such a large proportion of the population belongs to the insured class, the administration of medical benefit has brought about a great change in the character of the chemist's business, and there are indications that in course of time much of the exotic paraphernalia of pharmacy will disappear and the chemist's shop will become less of a general store and more of a place where pharmacy is practised. Already there has been a noticeable decrease in the sale of proprietary medicines and in "counter prescribing," and as time goes on the decrease will no doubt become more pronounced. Three months' experience has demonstrated that the extra work which has been thrown *upon the chemist is hardly compensated by the remuneration.* Except from Scotland, however, there have been few complaints concerning the rate of payment for drugs and dispensing, and it may be assumed that pharmacists are, on the whole, disposed to put on the credit side of the account the improvement in the character of their work, which has been one of the results of the operation of the Act. In Scotland the matter is not regarded in the same *light, for while a fair proportion of the work of the Scottish* pharmacist has always consisted of the compounding of prescriptions, this was hardly the case in England prior to the coming into operation of medical benefit. This difference is, in fact, emphasised by a representative body of Scottish pharmacists in a statement, which prefaces a demand for higher rates of payment for insurance work, wherein it is set forth that "while the English chemist has by means of the Insurance Act gained a considerable *addition to his* regular business, the Scottish chemist has seen a large number of his private clients brought under the Act, and as they now have their medicine supplied at the contract prices, he may fairly be considered to be a loser to the extent of the difference." From England and Wales, however, there appears to have been no expression of widespread discontent, but slightly improved terms have been embodied in the tariff of charges which form the basis of the new contract between pharmacists and Local Insurance Committees, beginning on April 15th. The principle upon which the tariff is based is the same as in Germany, a charge being made for each ingredient, according to its quantity and value, and a very modest additional fee for the time and skill required for dispensing. There are but few changes in the prices of the new tariff, and even in the aggregate they would amount to an almost negligible sum. For copying prescriptions the proposed remuneration is 1*d.* each, which can hardly be regarded as extravagant in view of the clerical work entailed. As to how far it will be found necessary to encroach upon the Drug Suspense Fund there are at present no means of making a fair estimate, but in Scotland, from calculations which have been made, it is considered that in many districts the drug bill will not swallow up the whole of the ordinary drug fund, in which case there would be no encroachment upon the floating 6*d.*

MIDDLESEX INSURANCE COMMITTEE.

The Middlesex Insurance Committee on April 7th had under consideration a letter from Mr. F. W. James, stating *that at a meeting of the Non-Panel Doctors' Association,* to which every qualified practitioner in Ealing whose name did not appear on the Middlesex panel was invited, it was decided to decline an offer of the Insurance Committee to allow medical men in Ealing to place their names on the panel for a limited class or number of insured persons. The association offered instead to establish a public medical service on the lines of the Ealing scheme, with no wage-limit other than that in the Act. Payment would be made out of a pool, not by capitation, but on a scale of fees for services rendered. The General Purposes Subcommittee recommended that the proposed service be not approved, and that full power be delegated to the subcommittee to deal—after consultation with the [illegible] Commissioners—

with any situation that might arise in the Ealing district after April 15th.

Mr. W. S. GLYN-JONES, M.P. (the Chairman), suggested that this proposal should be modified by the addition of the words :—

Provided that if the subcommittee recommend the appointment of a full-time officer or officers, a special meeting of the Insurance Committee will be summoned to confirm such resolution.

On a division, however, it was decided to omit the suggested additional clause on the ground that it would weaken the position of the committee in dealing with the situation in Ealing.

It was stated that the number of doctors on the panel in Middlesex was 520, and that 445 had signed renewal agreements. There were 347 chemists, and 305 had signed renewal agreements. Of 313,809 insured persons, 218,151 had selected their doctors.

LONDON INSURANCE COMMITTEE.

Some debate occurred at the meeting of the London Insurance Committee on April 3rd upon the following motion :—

That it be referred to the Medical Benefit Subcommittee to consider and report whether the present system of medical benefit provided under the Insurance Act, to insured persons in London, can be improved, and if so, to submit recommendations to give effect to their suggestions.

Mr. F. HARRIS, who moved the resolution, remarked that whereas prior to January last there were 1500 medical men engaged in contract practice, there were now 1258 medical men attending insured persons, who probably outnumbered by four to one those previously treated on a contract basis. He saw no reason to believe that the number of doctors on the panel would be greatly increased at the end of the first quarter. As there must be about 3000 medical men in London available for the treatment of insured persons, he urged that the question should be considered whether a conference with the medical profession would be useful in furthering the objects the Committee had in view.

Mr. E. B. TURNER, who seconded, said that the conditions of service under the Act must be modified if the number of medical men necessary for the proper working of medical benefit were to be obtained. It was the opinion of doctors all over the country that insured persons were not getting as good service as they were before the introduction of the Act. If better men could be attracted to the panels a double advantage would be secured in that the number of persons allocated to the individual doctor would be reduced, and patients would be attracted from any gentlemen who had gone on the panels after having failed to prove their ability in private practice.

Dr. H. H. MILLS thought Mr. Turner took an unduly pessimistic view. His information was the conditions of medical treatment among persons of the insured class were better than they had been before the Act came into force. He remarked that in three months only three or four serious complaints had come before the Committee. The working of the Act had made clear the inadequacy of medical provision in the whole of the east end of London and in all industrial districts.

Mr. EVAN JONES thought an efficient service under the Act was possible if the Committee approached the matter in the right spirit. He was not satisfied with the panel system.

The resolution was carried by a large majority.

The Committee instructed the Medical Benefit Subcommittee to prepare and circulate to members of the Committee only a return showing in the case of doctors on the panel with more than 1000 patients, the name and address of such doctor, the number of such patients so far as could be ascertained from the records of the Committee, and the amount of the cheques already paid on account of medical fees.

In view of the confidential character of reports dealing with complaints, the Committee approved the principle that the names of medical practitioners, chemists, and insured persons referred to therein should not appear on the agenda paper or other public documents of the Committee.

ORGANISATION OF THE MEDICAL PROFESSION.

We are asked to announce that at a meeting of members of medical unions and other bodies in east and north-east London and the county of Essex, held in the City on April 2nd, to "consider the best means of coördinating the work and policy of the said unions," a resolution to the following effect was carried with only one dissentient :—

That in view of the coming Representative meeting, the British Medical Association be requested to summon a meeting of the chairmen and secretaries of all Statutory and Provisional Local Medical Committees, and all other bodies interested in medical organisation, as soon as possible, for the purpose of considering the national organisation and consolidation of the entire medical profession.

NATIONAL MEDICAL GUILD.

The National Medical Guild has been established to acquire for the medical profession the immunities and powers of a trade union, as well as to provide various sorts of insurance for medical men; to obtain representation in Parliament; and for such other objects as may seem necessary or advisable. It is proposed to have members and branches in all parts of the United Kingdom. The rules of the Guild have already been circulated in London, and will be sent on application to any member of the profession elsewhere. The full scheme of insurance benefits is not yet ready for issue, but members joining now will have the full benefits of medical defence, either individually or collectively, as from the date of joining. The annual subscription is 1 guinea, which should be sent to the General Secretary, National Medical Guild, 34, Villiers-street, Strand, W.C. We are informed that the rules do not differ in any material respect from those of other trade unions.

THE MORTALITY OF THE PHTHISICAL UNDER SANATORIUM AND TUBERCULIN TREATMENT.

In a lecture at the Galton Laboratory, University College, London, recently, Mr. W. Palin Elderton, Fellow of the Institute of Actuaries, made some suggestive remarks on this subject. After alluding to the difficulties of making statistical comparisons of the results of treatment, it was shown that at present the most satisfactory comparison was reached by studying the subsequent mortality of those who had undergone various kinds of treatment. The results obtained proved that the mortality of incipient cases under sanatorium treatment was, generally speaking, over 3 times that of the general population, while advanced cases showed a mortality of 10 times, and far advanced cases a mortality of about 40 times, that of the general population. Some interesting results from Dr. Lawrason Brown's statistics of the Adirondack Sanitarium, New York, were discussed, but owing to the selection of patients and the increased proportion of early cases among the patients more recently admitted it was impossible to decide definitely to what extent sanatorium treatment had improved. The statistics showed, however, that at this particular sanatorium the authorities are now better able to say which cases will improve under treatment and which cases are cured. Using the same data, Mr. Elderton showed that the mortality of cases having tubercle bacilli in the sputum was $2\frac{1}{3}$ times to 4 times as heavy as that of the cases which were without this symptom, and this result sometimes enables us to estimate the extent to which data are influenced by the admission of an undue proportion of early cases. Examples of this were given in the course of the lecture. There was no evidence, Mr. Elderton considered, to prove that tuberculin as compared with ordinary sanatorium treatment appreciably lengthened the life of the consumptive. If the use of tuberculin had the very marked results claimed by some of its supporters, more definite evidence of its effect on mortality would have been anticipated.

In view of the National Health Insurance Act and its consequences, it is important that the mortality of consumptive patients after treatment should be studied fully with the view of ascertaining the relative value of the available methods of treatment, and the lecturer suggested that the only really satisfactory method of doing so was to try the treatments on similar cases—selected not by the stage of disease but at random—and to tabulate full particulars in order to see which gave the best results.

LONDON MEDICAL COMMITTEE.

A stormy meeting was held in Caxton Hall, Westminster, on April 8th, Sir Shirley F. Murphy presiding, the occasion being a conference called by the Local Medical Committee for the County of London. A resolution was adopted that a new committee should be chosen by local election in each borough, the existing committee, according to the proposer, being under a pledge to retire at the end of the quarter. This resolution, introduced as an amendment, took the place of one requesting the committee to continue to act for the present.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the First Professional Examination held on April 1st, 2nd, 3rd, and 4th the following candidates were approved in the undermentioned subjects:—

Chemistry and Physics.—Norman John Ainsworth, Royal Dental Hospital; Robert Aspinall Stivala, Guy's Hospital; Frank Blake, City of London School, Antonio Mario Clément, St. Thomas's [illegible]

C[illegible]

Morris-Jones, St Mungo's College, Glasgow; Percival Randall, Cardiff University; Felix Tagger, Royal Dental Hospital; Charles Wilson Tomkinson, London Hospital; Cecil Vincent-Brown, Guy's Hospital; and Graham Arthur Osborne White, University College, Cardiff.

Physics.—Henry Hutton Castle, St. Thomas's Hospital; Bernard Crossley-Meates, Birkbeck College; Abdel Aziz Hassan El Zeneiny, Cairo and London Hospital; and John Reginald Houghton, Manchester University.

B[illegible]

At the Second Professional Examination in Anatomy and Physiology, held on March 27th, 28th, and 31st, and April 1st, 74 candidates presented themselves, of whom 43 passed and 31 were rejected. The following are the names of the successful candidates:—

Alexander William Charles Bennett, St Thomas's Hospital; Henry Cecil Herbert Bull, B.A. Cantab., Cambridge University and London Hospital, Ernest James Coombe, St. George's Hospital and King's College; George Lambert Cutts, Guy's Hospital; Arthur Thomas Dally, William Hood Dye, L.D.S. Eng., and [illegible] Hospital, Cyril Gould, University
[illegible] Greenish, B.A. Cantab.,
[illegible] Hospital; Frank Edmund
[illegible] niversity and St. Thomas's
[illegible] Husbands, Bristol Uni-
[illegible] dgson-Jones, Manchester
[illegible]
University; Harold Leslie Hughes, St. Mary's Hospital and King's College; Frank Bernard Jago, Manchester University; Nilkanth Shrivam Jatar, L.M. & S. Bombay, Bombay University and University College; James Kyle, Guy's Hospital;
Roy D[illegible] sity College; Cyril George
Learoy[illegible] Ernest Alfred Levieseur,
Guy's [illegible] Lindeman, St. Bartholo-
mew's [illegible] Little, Bristol University;
Eldon Munro Litchfield, New Zealand University and Guy's Hospital; George Samuel Bousfield Long, Guy's Hospital; Lewis Alexander McAfee, B.A. Cantab., Cambridge University and London Hospital; John Edward Carbery Maguire, and Rodney Honor [illegible]
Noel Spencer Nairne, St [illegible]
Navalkar, Bombay Un[illegible]
Frederick Munton Payn[illegible]
Smith, St. Thomas's Ho[illegible]
[illegible]
[illegible] Skelton, London
[illegible] ersity; Ambrose
[illegible] Whitehead, B.A.
[illegible] ge University and
[illegible] win Wilson, St.
Bartholomew's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Preliminary Science Examination for the Licence in Dental Surgery the following candidates were approved in the undermentioned subjects:—

[illegible] ge; *Geoffrey*
[illegible]
[illegible] ngton Eady,
[illegible] le Farnham,
[illegible]
University.

LONDON SCHOOL OF TROPICAL MEDICINE.—The following is the list of the successful candidates at the examination held at the close of the forty-first session of the school:—

*Captain C. A. Gill, I.M.S., M.R.C.S., L.R.C.P., D.P.H.; *Captain F. P. Connor, [illegible]
Lond.; M. C. F[illegible]
J. R. Boyd, Co[illegible]
Layman, Coloni[illegible]
M.R.C.S., L.R.C.[illegible]
Camb.; F. C. D[illegible]
J. McDonald, [illegible]
Service, M.B., [illegible]
Service, M.R.C.S[illegible]
F.R.C.S.E.; Mi[illegible]
Beckett, Colonia[illegible]
L. S. McLean, [illegible]
Foreign Office, [illegible]
Service, M.R.C.S[illegible]
M.B., Ch.B. Edin.

* Passed with distinction.

UNIVERSITY OF GLASGOW.—The following have passed the First Professional Examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., botany; Z., zoology; P., physics; C., chemistry):—

William Adams (Z., C.), Thomas Andrew Jamieson [illegible] (B.),
Robert Aitken (Z., C.), Marshall Thomson [illegible]
David Arthur (Z.), John Ashforth (Z., C.), [illegible]
(Z., C.), Henry Ernest Cyril Bacon (Z.), [illegible]

Baillie (Z., C.), Edward Thomas Boyle (B., P.), Archibald Campbell Brown (P.), Donald Eadie Brown (Z., C.), George Brown (Z., C.), Duncan Smith Buchanan (C.), Robert Stevenson Caldwell (Z., C.), Duncan Cameron (B., C.), Robert Barton Cameron (Z., C.), William James Simon Cameron (Z., C.), David Campbell, M.A., B.Sc. (P.), Malcolm Chalmers (Z.), Thomas Cuthbertson Christie (Z., C.), Alexander Ebenezer Cochrane (B., P.), Cyril Lockhart Cottle (Z., C.), Harold Livingstone Coulthard (Z., C.), John Salisbury Craig (Z., C.), Harold Arthur Cruickshank (Z., C.), Andrew Dick (Z., C.), James Hamilton Dobbin (Z.), Robert Kinnier Duguid (Z., C.), James Ferguson Duthie (Z.), Robert Taylor Duthie (B., Z., P.), Kenneth Henry Dyke (C)., Ralph Erskine (Z., C.), Fritz Eberhard Ferguson (B., Z.), *James Brown Fisher (C.), James Paton Fleming* (Z., C.), Walter Watson Forsyth (Z.), Robert Scoular France (Z., C.), Robert John Leslie Fraser (Z [illegible]
Galbraith (Z., C.), [illegible]
Alexander Gillander [illegible]
Osm [illegible] (B.,
P.), [illegible] don
(P.), [illegible] rles
Hendrie (Z.), George Mundell Hetherington (Z., C.), John [illegible]slop (Z., C.), James Robert Riddell Holms (Z., C.), Edward Porteous Irving (Z., C.), John Alexander Jenkins (Z., C.), Jacob Joels (Z., C.), William Hogarth Kerr, M.A. (B., Z., C.), William Mackintosh Kerr (B., P.), Peter Stewart Kinloch (Z., C.), Patrick Joseph Aloysius Lavelle (Z., C.), James Liddell (P., C.), Albert Ernest Lillicrap (Z., C.), William Wilson Lundie (Z., C.), Kenneth M'Alpine (Z., C.), Hugh Ernest M'Coll (P., C.), William Ritchie M'Crae (Z., P.), John Ronald M'Crindle (Z., C.), Arthur Daniel Clark M'Gowan (B., C.), Alexander M'Cheyne Macintosh (Z., C.), John Ebenezer MacIntyre (Z., C.), Donald James M'Kinnon (Z., C.), John Macleod (Z., P., C.), Findlay Kerr Macmillan (Z.), Donald Macqueen (Z., C.), William M'William (Z.), John Marshall (Z., C.), George Macleod Millar (Z., P.), Archibald Stewart Miller (Z., C.), William Duff Miller (Z., C.), David Stephen Mitchell (Z., C.), Livingstone Mitchell (B., Z., P.), James Moffat (Z., C.), John William Morton (Z.), James Robertson Jack Mylles (Z., C.), Douglas John Nicol (Z., C.), William Nicolson (Z., C.), John Bernard O'Neill (B., P. C.), William Harold Palmer (B., Z., P.), James Walker Patterson (Z., C.), Thomas Poole (P.), Robert Scott Reid (C.), Francisco Ribeiro (P., C.), Andrew Riddell (B., P.), Samuel Murdoch Riddick (Z.), Humphrey Robertson (Z., C.), John Joseph Robertson (B., Z., P.), Frederick [illegible]
[illegible] Hugh Stewart (P., C.), Henry Stuart
(Z.), Herbert Arnold Summers [illegible] (Z., C.),
Joseph Turner Taylor (B., P.), [illegible], Robert
Nisbet Walker (Z., C.), William [illegible], James
Watt (Z.), John Pendleton Whi [illegible] (B., Z.,
P., C.), George Young (Z., C.), Robert Young (P.), and William Young (Z., C.).

Women.—Janetta Margaret Alexander (P.), Annetta Gillies Turnbull Anderson (Z., C.), Marjorie Mason Anderson (Z., C.), Jean Mary Frew (Z., C.), Margaret Hutchison Glen (Z., C.), Alison Mary Hunter (Z.), Grace Leisk Hunter (Z., C.), [illegible]
Leitch (B.), Elizabeth Clark M'Haffie, M.[illegible]
Mackinnon (Z., C.), Jessie Brown Maclachl[illegible]
(Z., C.), May Isabella Turner Reid (Z., C.). [illegible]
(Z., C.), Margaret Nelson Robertson (Z.), [illegible]
(P., C.).

The following have passed in the subjects indicated (A., anatomy; P., physiology; M., materia medica and therapeutics) the Second Professional Examination (Old or New Ordinance), or the Third Professional Examination (New Ordinance) for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.):—

Ismail Abdurahman (A.), Robert Aitken (A., P.), William Allan (M.), Robert Mitchell Stewart Boyd (P.), William Ernest Boyd, M.A. (M.), John Bradford (M.), Donald Campbell Buchanan, M.A. (P.), John Buchanan (A.), William Edmund Alexander Buchanan (M.), Donald Ronald Colin Cameron (A., P.), John Cameron (A., M.), Dugald Stewart Campbell (A., P.), John Munro Campbell (M.), Moses Wolffe Cantor (A., P.), Alfred Mackenzie Clark (M.), Allan La Barte Clark (P.), John Connal (P.), Robert Stobo Crawford (P.), Henry Paterson Crow (A., P.), William Cunningham (A., P., M.), William Donald (P.), Alexander Hogg Donaldson (A., P., M.), Ernest M'Murchie Dunlop (A., P.), Thomas Ferguson (P.), Harry Taylor Findlay (M.), Robert Forbes (A., P., M.), George John Fraser (A., P.), Walter Weir Galbraith (M.), Leonard Woodburn Gemmell (P.), Robert Stuart Gibson (A., P.), *John Gilchrist* (A.)., *Robert Kinnear Hay Gillespie* (A., P.), Colin Campbell Blair Gilmour (A., P., M.), John Glaister (P.), William Gordon (A., P.), Ronald Thomson Grant [illegible]
[illegible] n (A., P., M.), William Allan Higgins,
[illegible] M.), George Kirkhope (A., P.), John
[illegible] Kyle (A., P., M.), Hugh Brown Lawrie
[illegible] Leiper (A., P.), Alfred Thomas Logan
(A., P.), Peter Young Lyle (A., P.), Reginald Lyon (P.), Hugh Lawrence M'Cormick (P., M.), Hugh Douglas M'Crossan (P.), Archibald Munn M'Cutcheon (M.), Duncan Fraser Macdonald (M.),
[illegible] (M.), David M'Farlane (A., P., M.), John
[illegible]), Gerald James M'Gorty (A., M.), Archi-
[illegible], Alexander Fraser M'Intosh (A., P., M.),
James Murdoch Mackay (M.), George Maclean (A., P., M.), Peter Donald MacLean, M.A. (A., P., M.), Malcolm Bonar Macleod (A., P., M.), David M'Neill (P.), William Martin (P.), James M'Donald Matheson (M.), John Campbell M'Intyre Matheson (P., M.), Thomas Duff Miller (A., P., M.), John Desmond Milligan (A., P., M.), Peter Orr Moffat (P., M.), Laurence Sebastian Morgan (A., P., M.), *Noah Morris* (A., P.), *Frederick William Morrison* (A., P., M.), Hugh Adam Munro (A., P., M.), Prem Nath (M.), William O'Brien (A., P., M.), Michael O'Callaghan (A.), James Alphonsus O'Connor (M.), Arthur William Panton (A., P., M.), John Roberts Pate (A., P.), James Paterson (A.), James Herbert Paul, M.A. (A., P., M.), William James Poole (M.), William Burns Primrose (M.), Hugh Quigley (M.), John King Rennie (A., P.), James Richardson (P.), David Bell Robertson (M.), George William Ronaldson (A., P.), Kenneth M'Alpin Ross (A., P., M.), William Jack Scade (A., P., M.), Seymour Cochrane Shanks (M.), William Frederick Shanks (M.), John Sillars (A.), James Tait Smith (A., P., M.), John Smith, M.A. (P.), Andrew Stenhouse (A., P.), John Stirling (A., P.), Robert Sutherland Strachan (M.), Robert Taylor (A., P., M.), Cecil Raymond Tytler Thompson (P.), Robert Taylor Todd (A., P.), Adrian Johannes Van der Spuy (A., M.), George Turnbull Walker (M.), James *Walker (M.), James Gordon Wilson* (A.), Thomas M'Skimming Wilson (P.), Alexander Young (P.), and Thomas Young (A., P., M.).

Women.—Jane Beattie Davidson (A.), Janet Fraser Henderson (A.), Helen Isobel Winifred Kerr (M.), Dorothy M'Cubbin (M.), Margaret Jane Maclachlan (P.), Mary Anderson Noble (P.), Mary Scott (A.), Margaret Ann Hendry Stewart (A., P.), Isabel Stirling Thomson (A., P.), Margaret Walker (M.), Mary Ferguson Wood, M.A. (P.), and Isabella Henrietta Younger (M.).

The following have passed in the subjects indicated (P., pathology; M., medical jurisprudence and public health), the Third Professional Examination (Old and New Ordinance), for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.):—

George Kirkwood Allan (P.), James Mair Anderson (P.), John Anderson (M.), Robert Armstrong (P., M.), George Fleet Barr (P., M.), Andrew Duffield Blakely (P.), Robert William Brander (P., M.), William Hunter Brown (P., M.), Maurice Smith Byrce (P., M.), Samuel Bryson (P.), James Alexander Chrystie (M.), Robert Clark, M.A. (P.), Andrew Climie (P., [illegible]
George Gibson Cooper (P., M.), James [illegible]
William Cullen (M.), John Nairn Dobb[illegible]
Dun (P., M.), Dugald Ferguson (P., [illegible]
(P., M.), George Fleming (P.), James Bryan Fotheringham [illegible]
Allan Dumbreck Fraser, M.A., B.Sc. (P., M.), Robert Frew, B.Sc. P., M.), Walter Weir Galbraith (P.), Alexander John Gibson (P., M.), Thomas Gilchrist, M.A. (P.), John Aitken Gilfillan (P., M.), George Gordon (P.), Peter *Gordon* (P., M.), *Robert* Masson Greig (P., M.), Alexander Hislop Hall (P., M.), David Cochrane Hanson (P., M.), David Hardie, M.A. (P., M.), Joseph Welsh Park
Harkness, M.A. (P [illegible] M.), *Thomas*
Cameron Houstor [illegible] M.), David
Johnston (P., M. [illegible] am Joseph
Brown Lavery [illegible]), Douglas
M'Alpine (P., M.). [illegible] e M'Callum
(P., M.), Joseph [illegible] n M'Intosh
M.A. (P., M.), Do [illegible] ie (P., M.),
Joseph Allan MacLean (P., M.), William Edward M'Lelland (P., M.), James Kennedy Manson (P.), Andrew Paton Martin (P., M.), William Strelley Martin, M.A. (P.), James M'Donald Matheson (P.), Walter John May (P., M.), William Meikle (P., M.), Alexander Dryden Moffat (P., M.), James William Moffatt (P., M.), Percival John Moir (P., M.), Prem Nath (P.), Thomas Augustine O'Brien (M.), William Luddington Peacock (P., M.), Andrew Picken (P., M.), John M'Lean Pinkerton, B.Sc. (P.), Hugh Quigley (P.), Frederick Powlett Rankin (P.), Adam Rankine (P., M.), Robert Ray (P., M.), Thomas Forbes *Brown Reid* (P.), Robert Cecil Robertson (P., M.), Stanley *Robertson* (P., M.), Stuart Robertson (P., M.), Archibald M'Kerrow Russell (P.), Alexander Scott (P., M.), Norman M'Gaan Smith (P.), *John* Banks Steven (P.), John Fraser Steven, M.A. (M.), Henry Stewart, M.A. (M.), John Symington Stewart (P., M.), *Robert* Tennent (P., M.), Robert Noel Thomson (P., M.), William Thomson, M.A. (P.), Henry James Vallance (P., M.), William Semple Wallace (P., M.), Alexander Currie Watson (P.), Joseph Bannister Williamson (P., M.), Alexander Sweet Wilson (M.), John Wylie (P., M.), Thomas Wilson Wylie (P., M.), Gavin Young (P., M.), and John Miller Young (P., M.).

Women.—Grace Gillies Turnbull Anderson (P., M.), Agnes Elizabeth Mary Cooke (P.), Dagmar Florence Curjel (P.), Ethel Winifred Gompertz (P.), Jessie Gordon M'Laren, M.A. (P., M.), Gladys *Montgomery* (P., M.), *Sara Adam Watson* (P., M.), Grace Birrell Whish (P., M.), and Marguerite Wilson (P.).

The following have satisfied the examiners in the Fourth (Final) Professional Examination:—

Degrees of M.B., C.M.—Andrew Phillips Aitken.

Degrees of M.B., Ch.B.—Cecilia Small Turnbull Anderson, Janet Rankine Anderson, William Larmour Anderson, Henry Stanley Banks, M.A., Richard Archibald Barlow, B.Sc., John Smith Knox Boyd, James Law Brownlie, Alexander Grahame Buchanan, W[illegible] Leonard Cassells, B.Sc., John Connell, Robert Craig,
M[illegible] lter *Elliot Elliot*, B.Sc.,
J[illegible] r Glen, James Lochhead
G[illegible], William Muir Howells,
D[illegible] M'Elroy Hunter, John
F[illegible] nglis, Charles Joseph Kirk,
M[illegible] John M'Ghie, Margaret
Helen M'Killop, Murd[illegible] Henry Magoveny,
William Ebenezer Maitland, William Montgomery, James Leslie Ruthven Philip, Sarah Anderson Jamieson *Rankine*, Frank John Morton Robertson, Archibald Watson Russell, James Roderick Sinclair, Neil Islay Sinclair, James Anstruther Smith, Roderick Alexander Steven, George Taylor, M.A., Ernest Graham Young Thom, M.A., Angus Walker, James Cairns Watt, James Whiteside, and Andrew Morton Young.

The following candidates passed with distinction in the subjects indicated:—

First Exa[illegible] Stevenson Caldwell, Thomas
Cuthber[illegible] William
Hogarth [illegible], *Henry*
Buchan [illegible] Campbell,
M.A., B.[illegible] *In Chemistry*: Annetta Gillies

Turnbull Anderson, Margaret Hutchison Glen, William Ralston Duncan Hamilton, James Robert Riddell Holms, Albert Ernest [illegible] Ernest [illegible], Arnot [illegible]iology [illegible] Archi- [illegible] Hugh [illegible] Adam Munro.

[illegible] James [illegible], Joseph [illegible]al Juris- [illegible]land and [illegible] y Banks, [illegible]

UNIVERSITY OF DURHAM.—At the Convocation [illegible]d on March 29th the following degrees and diplomas were [illegible]ffirmed:—

[illegible]

[illegible]aster of Surgery (*M.S.*) [illegible]

[illegible]achelor of Medicine [illegible] Burrell, B.Sc., Willi[illegible] [illegible] Stanley Arkle, Theonie Renée Burrell, B.Sc., [illegible] Frederick Joh[illegible] Charles Henry [illegible] Newcastle-upon[illegible] College, London.

[illegible]achelor of Hygiene (*B.Hy.*).—Patrick Albert Galpin and William Hudson.

[illegible]ploma in Public Health (*D.P.H.*).—Patrick Albert Galpin and William Hudson.

[illegible]icence in Dental Surgery (*L.D.S.*).—George Vernon Watt, College of Medicine, Newcastle-upon-Tyne.

FOREIGN UNIVERSITY INTELLIGENCE.—*[illegible]giers* (*Medical School*): Dr. Poujol has been appointed to [illegible] chair of Pathological Anatomy.—*Bologna*: Dr. Pazzi, [illegible] Genoa, has been recognised as *privat-docent* of Mid[illegible]ery and Gynæcology, and Dr. A. Ghedni as *privat-[illegible]ent* of Operative Medicine.—*Bonn*: Dr. Karl Bachem, *[illegible]vat-docent* of Pharmacology, Dr. Hugo Stursberg, *privat-[illegible]ent* of Medicine, and Dr. Erich Zurhelle, *privat-docent* of [illegible]næcology, have been granted the title of Professor.—*[illegible]ston* (*Harvard University*): Dr. Richard P. Strong has [illegible]n appointed to the chair of Tropical Diseases.—*[illegible]eslau*: Dr. F. Henke, of Königsberg, has been appointed [illegible] the chair of General Pathology and Pathological Anatomy, [illegible] succession to Dr. Ponfick, resigned.—*Catania*: Dr. [illegible] D'Urso has been recognised as *privat-docent* of Anatomy, [illegible] Dr. G. Zurria as *privat-docent* of External Patho[illegible]y.—*Düsseldorf* (*Academy of Practical Medicine*): Dr. [illegible] G. Mönckeberg, extraordinary professor of Patho[illegible]ical Anatomy in the University of Giessen, has been [illegible]pointed Director of the Municipal Pathological Institute and [illegible]mber of the Faculty of the Academy, in succession to Dr. [illegible] Lobarsch, who goes to Kiel.—*Halle*: Dr. Aichel has been [illegible]ognised as *privat-docent* of Anatomy, and Dr. F. Lehnerdt [illegible] *privat-docent* of Pædiatry.—*Heidelberg*: Dr. F. Lust has [illegible]n recognised as *privat-docent* of Pædiatry.—*Kiel*: Dr. [illegible]x Kappis has been recognised as *privat-docent* of Surgery. [illegible] *Königsberg*: Dr. F. B. Hofmann, professor in Prague, has [illegible]n appointed to the chair of Physiology, in succession to [illegible]. Hermann, resigned; Dr. Hans Reiter has been recognised [illegible] *privat-docent* of Hygiene and Bacteriology.—*Lausanne*: [illegible]. H. Vulliet, *privat-docent* of surgery, has been promoted [illegible] Extraordinary Professor.—*Lemberg*: Dr. G. Bikeles, *privat-[illegible]ent* of neurology, has been granted the title of Ordinary [illegible]fessor.—*Lille*: Dr. Lambert has been appointed to the new [illegible]air of Clinical Surgery.—*Marburg*: Dr. Jores, of the Cologne [illegible]ademy of Practical Medicine, has been appointed to the [illegible]air of Pathological Anatomy, in succession to Dr. Martin [illegible] Schmidt.—*Montevideo*: [illegible] [illegible]n appointed to the chair of [illegible] [illegible]ver has been appointed Pro[illegible] *Naples*: Dr. Raffaeli Lettieri and Dr. Ignazio Scalone have been recognised as *privat-docenten* of External Pathology.—*Pavia*: Dr. F. Marcora has been recognised as *privat-docent* of Medical Pathology; and Dr. G. Verdelli as *privat-docent* of Midwifery and Gynæcology.—*Philadelphia* (*Medico-Chirurgical College*): Dr. Ross H. Skillern has been appointed Professor of Laryngology in succession to Dr. Cleveland.—*Philadelphia* (*Women's Medical College*): Dr. Randle C. Rosenberger, of Jefferson College, has been appointed Professor of Hygiene.—*Prague* (*German University*): Dr. R. Schmidt, professo[illegible] chair of Medicin[illegible] *Rio de Janeiro*: [illegible] to the chair of Clinical Neuroses.—*Rome*: Dr. R. Dalla Vedova, of Modena, has been appointed Extraordinary Professor of Orthopædic Surgery.—*Rostock*: Dr. M. Wirths has been recognised as *privat-docent* of Ophthalmology, and Dr. A. Burchard as *privat-docent* of Radiology.—*San Paulo*: Dr. Ficker, of the Hygienic Institute, Berlin, has been appointed to take temporary charge of the Municipal Bacteriological Institute, having obtained a year's leave from Berlin for that purpose.—*Vienna*: Dr. von Ebner, [illegible] Children's Diseases.—*Wurzburg*: Dr. Martin B. Schmidt, of Marburg, has been appointed Professor of Pathological Anatomy in succession to Dr. Kretz, resigned.

METROPOLITAN POLICE SURGEONS' ASSOCIATION.—The annual meeting of this association was held at Frascati's Restaurant on April 2nd. Mr. Meredith M. Townsend was elected president for the coming year, and Dr. G. A. Hamerton vice-president. Dr. C. Owen Fowler and Dr. G. Nicol Henry, the honorary secretaries, received the thanks of all the members for the way in which they had fulfilled their arduous duties, and were unanimously requested to continue in office. Mr. H. Bott was re-elected honorary treasurer, and the six vacancies on the council were filled by the election of Mr. A. E. Kennedy, Dr. G. B. Scott, Mr. C. T. W. Hirsch, Dr. W. A. Rudd, Dr. W. R. Burgess, and Mr. Percy Clark. The meeting was followed by the annual dinner, which was under the chairmanship of the President (Mr. Victor A. Jaynes), [illegible] Paul Taylor, one of the metropoli[illegible] [illegible]. C. A. Ballance, M.V.O., the new [illegible]ldie, one of the coroners for the C[illegible] [illegible]. H. Tripp, the Receiver for the Metropolitan Police District. After the usual loyal toasts had been honoured, Mr. Taylor, in a humorous speech, proposed "The Metropolitan Police Surgeons' Association." He remarked on the many links of common interest there were between magistrates and police surgeons, and what a help the latter were to him in his work, and how he, in spite of the allurance of advocacy, was always guided by the opinion of the divisional surgeon, which always gave a correct summary of the situation without flowery language, though he had a recollection of one member who generally certified cases of alcoholism as "stinking drunk." Dr. R. Esler gave the toast of "The Commissioners and the Receiver," which in the unavoidable absence of Sir Frederick Wodehouse, K.C.V.O., was replied to by Mr. Tripp, to whom Dr. Esler had facetiously referred as the official enemy, but actual friend of all police surgeons, even in the matter of special fees. Dr. Fowler proposed "The Chief Surgeon" and feelingly mentioned the late chief surgeon, Mr. Clinton Dent, and the many benefits divisional surgeons now enjoy which were brought about through the instrumentality of the late Mr. Dent, whose personal charm and record of work would always be remembered and would be a stimulant and encouragement to his distinguished successor, to whom the association extended a very hearty welcome and hoped that the friendly relationship of the past between the chief surgeon and divisional surgeons would be continued in the future. Mr. Ballance made a most interesting reply. Mr. Bott, in an entertaining speech, expressed the satisfaction all felt at seeing the guests, which was responded to by Mr. Arthur Denman, who feelingly gave a reminiscence of how a client he had defended, in obtaining some boots, had disarranged a constable's buttons, and how the secretary of the association had attended in court regarding the matter. Between the toasts Miss Ethel Williams, Miss Margaret Crawford, Mr. Walter Dennis, and

Mr. William Cox added to the enjoyment of the company by their excellent rendering of songs.

THE DUTY AND DISCIPLINE MOVEMENT.—A meeting will be held to-day (Friday, April 11th) at 5.15 P.M. at Caxton Hall, Westminster, S.W., under the presidency of Professor Robert Saundby, M.D., when Dr. Eric L. Pritchard and Mr. Alfred F. Tredgold will speak on Self-development and National Health.

CHELSEA HOSPITAL FOR WOMEN.—The annual meeting of the governors of this hospital was held on April 3rd, the President, Viscount Castlereagh, in the chair. The council's report showed that satisfactory progress had been made during 1912 in the collection of funds for the rebuilding of the hospital and its nurses' home on the site so generously given by Earl Cadogan. Through the dinner at which Viscount Castlereagh and the Countess of Ilchester, the president of the ladies' committee, had jointly presided in November, over £8000 was added to the amount available. Nearly £500 was sent in small amounts from former patients. King Edward's Fund had made a first grant of £1000. The medical work was again excellent; of the 885 in-patients, 516 had needed operative treatment of a critical nature, but the rate of mortality was only 1½ per cent.

WEST END HOSPITAL FOR NERVOUS DISEASES.—The annual meeting of this hospital was held last week, Mr. Leonard Brassey, M.P., being in the chair. Although the subscriptions and donations during 1912 had somewhat fallen off, yet patients' payments, dividends, and legacies all showed increases, and the total income amounted to some £350 more than that of 1911. The total expenditure also showed a small increase, owing to some extraordinary charges which had to be included this year. The average weekly cost per in-patient was less than in the previous year by 4*s.* 5*d.*, and the cost per out-patient attendance was also reduced. In-patients under treatment numbered 319; but there is a very long list of patients awaiting admission, amounting in the case of women to four or five for each bed. The provision of extra accommodation is most urgently needed, and an appeal is made for donations to wipe off the £5000 debt, so that a scheme of extension may be taken in hand.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—The annual meeting of the above society will be held at 1, Wimpole-street, London, W., on Thursday and Friday, April 24th and 25th, 1913. The morning sessions will be from 10.30 to 12.30 and the afternoon from 2.30 to 4.30. On Thursday morning, April 24th, at 1, Wimpole-street, the following papers will be read:—Mr. Frank Juler: Acute Purulent Keratitis in Exophthalmic Goitre treated by Repeated Tarsorrhaphy. Mr. Ormond: Two cases of Permanent Hemianopia following Migraine. Dr. Taylor and Dr. Gordon Holmes: (*a*) Conditions Present in Several Members of a Family with Hereditary Optic Atrophy; (*b*) Unusual Conditions Associated with Optic Atrophy of the Family Type. Mr. Bishop Harman: (*a*) An Analysis of 250 Cases of High Myopia; (*b*) A Suggestion for the Grading of Fundus Changes in Myopia. On Thursday afternoon, April 24th, at 1, Wimpole-street, the following papers will be read:—Mr. Angus Macnab: An Operation for the Excision of the Conjunctival Sac and Lid Margins. Mr. Dorrell: Sensory Reflex in Tobacco Amblyopia. Mr. Treacher Collins and Mr. Hudson: On the Pathological Examination of an Eye with Congenital Anterior Staphyloma. Mr. Treacher Collins: Visible Vessels on the Surface of the Iris. The annual business meeting will be held at the conclusion of the afternoon meeting on Thursday. On Friday morning, April 25th, at 1, Wimpole-street, W., there will be a discussion on Vascular and other Retinal Changes in Association with General Disease, to be opened by Dr. James Taylor, Dr. Louis Werner, and Mr. George Coats. On Friday afternoon, April 25th, at 2.30, the society will meet at the Royal London Ophthalmic Hospital, City-road, E.C., when the following cases and others will be shown:—Mr. Angus Macnab: An Early Case of Chronic Glaucoma Operated on by Trephining, in which there was subsequently a diminution in the excavation of the disc. Mr. Treacher Collins: A case of Buphthalmos with Full Vision and without any cupping of the optic disc. Mr. Ormond: (*a*) Thrombosis of the Retinal Veins, shown at a meeting of the Ophthalmological Society in October, 1906; (*b*) case of Albuminuric Retinitis of ten years' standing. Mr. Lawford: Vascular and Retinal Changes resulting from Partial Venous Thrombosis. A discussion will follow the examination of the cases. An exhibition of ophthalmic instruments, &c., will be held during the days of the meetings at the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., to which all members are invited.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Milk and Dairies (Scotland) Bill.

THE Milk and Dairies (Scotland) Bill, which was recently introduced in the House of Commons by Mr. MCKINNON WOOD, the Secretary for Scotland, is designed to "ensure the purity of milk supplies and to regulate dairies in Scotland and for other purposes connected therewith."

As stated in a memorandum, the main objects of this Bill are to provide for—

1. The appointment by local authorities of a veterinary inspector.
2. The inspection of dairies, and of the cattle therein.
3. The registration of dairies.
4. The provision of by-laws for—
   (*a*) the inspection of cattle;
   (*b*) the construction, &c., of dairies;
   (*c*) the prevention of impurities in milk, and the cleanliness of persons engaged in dairy business;
   (*d*) the precautions to be taken by dairymen against infection.
5. The issue of regulations by the Local Government Board for Scotland for—
   (*a*) the prevention of danger to public health from the importation of milk, butter, and cheese; and
   (*b*) securing the supply of pure and wholesome milk.
6. The prohibition of the supply of milk which has caused or is likely to cause infectious disease.
7. The establishment by local authorities of milk depôts for the sale of milk specially prepared for infants.

The provisions as to registration supersede the provisions as to the registration of dairies contained in the Contagious Diseases (Animals) Acts, and the Orders made thereunder. The provisions as to the inspection of dairies and prohibition of the supply of milk are an extension of those contained in Sections 60 and 61 of the Public Health (Scotland) Act, 1897. The Board of Agriculture and Fisheries have issued an Order under the Diseases of Animals Act, 1894, dealing with tuberculous cows, and providing for the payment of compensation in cases of slaughter. The Treasury are prepared, subject to the assent of Parliament, to sanction the payment from the Exchequer of one-half of the net amount paid by way of compensation for a period of five years.

Medical Attendance under the Insurance Act.

It is expected that on Wednesday, April 30th, the House of Commons will discuss a motion dealing with the administration of the Insurance Act and medical benefit.

Vaccination Acts (Repeal) Bill.

Amongst the Bills recently introduced in the House of Commons is one "*to repeal the Vaccination Acts, 1867 to 1907.*" It was presented by Mr. BLACK.

Select Committee on Patent Medicines.

The Select Committee of the House of Commons on Patent Medicines heard further evidence on Thursday, April 3rd, on behalf of the owners of proprietary remedies.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 2ND.

Aged Members of Friendly Societies.

Captain FABER asked the Secretary to the Treasury whether anything was to be done to prevent members of Friendly Societies of over 65 years of age being compelled to pay increased contributions for medical attendance and treatment.—Mr. MASTERMAN replied: I have nothing to add to the answers which I have already given on this subject.

Mr. W. CROOKS: May I ask whether the subject might be reconsidered in the interest of the old people?—Mr. MASTERMAN: Certainly, the understanding was that these people would receive medical attendance and treatment on the terms which the Friendly Societies now offer.

Captain FABER: With whom was the understanding made?—Mr. MASTERMAN: With representative members.

Mr. O'GRADY: Was this statement based on the assumption that the fees to be paid to medical men would be less than the amount which was afterwards agreed to be paid?—Mr. MASTERMAN: That is exactly true. They were willing to take the people for 6*s.* The societies are now offering 6*s.*, which is 2*s.* more than they used to pay.

Mr. WORTHINGTON EVANS: Is it not intended that the members of Friendly Societies who are not within the Act should have exactly the same treatment as those who are within the Act?—Mr. MASTERMAN: At a reasonable figure. The fact that we are giving half-a-crown overnment subsidy more than for the others would, I should have hought, have made the doctors more willing to take these patients.

Medical Benefit and Migratory Insured Persons.

In reply to Viscount **WOLMER**, Mr. **MASTERMAN** said: An insured ervant who moves from one area to another may, by giving notice to

t present under consideration.

Closing Orders under the Housing and Town Planning Act.

Mr. **DOUGLAS HALL** asked the President of the Local Government Board whether the Government would consider the advisability of

and I hope when an opportunity offers to suggest an amendment of the Act of 1909 so as to meet the difficulty.

Nursing Arrangements in Poor-law Institutions.

Mr. **DICKINSON** asked the President of the Local Government Board whether, in considering the proposed Poor-law Institutions Order in so far as it would affect the nurses and the nursing in such institutions, he had received any representations from the Workhouse Nursing Association or from other societies or persons having special

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n on

Registration under the Pharmacy Acts.

Mr. **CHARLES BATHURST** asked the Secretary of State for the Home Department whether he was aware that the council of the Pharmaceutical Society had not up to the present taken any steps to make by-laws under Section 4

what steps to induce
loss of time.—Mr.
the continuous and

WEDNESDAY, APRIL 3RD.

Medical Practices under the Insurance Act.

Mr. **KING** asked the Chancellor of the Exchequer whether he had

Medical Benefit in Ireland.

question.

Mr. T. M. **HEALY**. Is the right honourable gentleman aware that

School of Art, the expenses of which were defrayed from the Vote for temporary commissions in 1905–6 and 1906–7, and on which an Irish Member of Parliament served. There can to my mind be no question

identical.

Epidemics in Public Elementary Schools.

Mr. **KING** asked the President of the Board of Education whether he was aware of the overcrowded state of many public elementary schools and the present prevalence of epidemic diseases among scholars, resulting in the closing of schools and inconvenience and anxiety to

Final Report of the Tuberculosis Committee.

Mr. **CHARLES BATHURST** asked the Prime Minister whether it was proposed, in pursuance of the Final Report of the Departmental Committee on Tuberculosis, to establish an advisory body to deal with

carefully considered.

Metropolitan Asylums Board.

the Local Government Board

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thes

being caused to many very poor people, he would put cases of measles, &c., on the same footing as cases of scarlet fever, making no charge whenever removal to hospital was recommended because of the lack of facilities for isolation.—Mr. **BURNS** answered: All

inquiries in the matter.

The Scottish Mental Deficiency Bill.

Small pox Hospital at Kirkcaldy.

Mr. **WARDLE** asked the Secretary
had been called to the outbreak of
end of last year and to the positi
was alleged to be a danger to n
what he proposed to do in the

e source of infection, and
ies with a view to other
small pox patients.

Small pox in 1912.

Mr **BURNS** (President of the Local Government Board) informed Mr. J. **PARKER** that there had been no exceptional prevalence of small pox in England and Wales in 1912 and this year.

MONDAY, APRIL 7TH.

Sanatorium Accommodation at Nayland.

Scottish Clerks' Association and Medical Benefit.

In reply to Mr. **WATT**, Mr. J. M. **ROBERTSON** (on behalf of the Secretary to the Treasury) said the special medical scheme of the Scottish Clerks' Asso
Insurance Commiss
drawing approval.
Scottish Clerks' As
medical benefit on
for ordinary attendance amongst panel doctors or (where the Local Insurance Committee permits it) amongst non panel doctors also.

Medical Attendance under the National Insurance Act in Hull.

J. M. **ROBERTSON** (on behalf
that the number of medical
e number of insured persons

Medical Certificates for Sickness Benefit.

In answer to Sir WILLIAM BULL, Mr. J. M. ROBERTSON (on behalf of the Secretary to the Treasury) said that the acceptance or refusal of a certificate of any particular medical practitioner for the purpose of [illegible] was in the first instance for the Approved [illegible] a right of the insured person to appeal to [illegible] under Section 67 of the National Insurance Act. It was not the case that the Government auditors would look to the secretary of an Approved Society to refund money paid on the certificate of non-panel medical men as having been money unlawfully paid away.

Supply of Drugs for Insured Persons.

Mr. KING asked the Secretary to the Treasury whether he was aware of the offence proved against a firm of chemists in Staffordshire, who sold to an Insurance Committee a number of pills not in accordance [illegible] hether Insurance Committees were empowered [illegible] ny chemists convicted of such offences; and [illegible] Commissioners would occasionally test the medicines and pills supplied and so ensure their proper composition and efficacy.—Mr. J. M. ROBERTSON (on behalf of Mr. MASTERMAN) replied: The Commissioners have seen a report of the case referred to. If any representations are made to them that the inclusion or continuance on the panel of any chemist will be prejudicial to the efficiency of the service they may, after inquiry, exclude or remove such chemist from the panel. With regard to the third part of the question, it is the duty of the Insurance Committee to take such steps as may be necessary to secure a proper and efficient supply of drugs and medicines for the insured persons in their area.

Unsatisfactory Housing Conditions in Hitchin.

Replying to Sir HENRY HAVELOCK-ALLEN, Mr. BURNS (President of the Local Government Board) said: I am aware that in some parts of the urban district of Hitchin the housing conditions are very unsatisfactory, and I have for some time past been in correspondence with the district council in relation to the Queen-street [illegible] a view to action being taken by the council to [illegible] that area by making an improvement scheme [illegible] Working Classes Act, 1890. I have addressed a further letter to the council on the subject.

TUESDAY, APRIL 8TH.

Medical Treatment of School Children in Scotland.

Replying to Mr. JAMES HOGGE, Mr. MCKINNON WOOD (Secretary for Scotland) said: The only legislation which I contemplate for this session in connexion with the Education Acts is a Bill to give additional power to the school boards to provide for medical treatment in Scotland.

WEDNESDAY, APRIL 9TH.

Arrangements for Medical Treatment under the National Insurance Act.

Mr. NEWMAN asked the Chancellor of the Exchequer whether it had been brought to his notice that Insurance Committees, in refusing applicants desirous of making their own medical arrangements, were in the habit of assigning no reason for their inability to comply with the request of the insured person, but merely warned the applicant that, failing making a selection by March 31st, he would be liable to distribution among doctors on the panel; and whether, in view of the [illegible] was considered on its merits, he would explain [illegible] was not stated in the reply.—Mr. ROBERTSON [illegible] lor of the Exchequer) replied: An Insurance [illegible] obligation to explain in each individual case the reasons for refusing an application from an insured person for permission to make [illegible] endance and treatment. The [illegible] g the Insurance Committees [illegible] cated in the memorandum on [illegible]

BOOKS, ETC., RECEIVED.

OFFICE OF THE SURGEON-GENERAL, Army Medical Museum and Library, Washington, U.S.A.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Vol. XVII. Suaheli—Testut. Price not stated.

OPHTHALMOSCOPE PRESS, THE (GEORGE PULMAN AND SONS, LTD.), 24–27, Thayer-street, Manchester-square, London, W.

Sclero-Corneal Trephining in the Operative Treatment of Glaucoma. By Robert Henry Elliot, M.D., B.S. Lond., Sc.D. Edin., F.R.C.S. Eng., &c., Lieut.-Colonel, I.M.S., Superintendent of the Government Ophthalmic Hospital, Madras.

PITMAN, SIR ISAAC AND SONS, LIMITED, London.

Astonishing Anatomy! By Tingle. Price 1*s.* net.

POINAT, A., 121, Boulevard Saint-Michel, Paris.

La Biologie Synthétique. Par Stéphane Leduc, Professeur à l'École de Médecine de Nantes. Price not stated.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East, London, S.W.

List of the Fellows, Members, Extra-Licentiates and Licentiates of the Royal College of Physicians of London. MCMXIII. Price not stated.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, London, W.C.

Gynæcology for Nurses and Gynæcological Nursing. By Comyns Berkeley, M.A., M.D., B.C. Cantab., F.R.C.P. Lond., M.R.C.S. Eng., Obstetric and Gynæcological Surgeon to the Middlesex Hospital. Second edition, enlarged and revised. Price 2*s.* 6*d.* net.

The Care of Children. Practical Hints for Mothers and Nurses at Home and Abroad. By Robert J. Blackham, D.P.H. Lond., Hon. Surgeon to His Excellency the Viceroy and Governor-General of India, Major, Royal Army Medical Corps. Third edition. Price 1*s.* 6*d.* net.

THIEME, GEORG, Leipzig.

Die Leberkrankheiten. Für Studierende und Aerzte. Bearbeitet von Dr. C. A. Ewald, Geh.Med.-Rat, Professor ord. hon. an der Kgl., Friedrich-Wilhelm-Universität. Price, paper, M.10; bound, M. 11.

UNIVERSITY PRESS, Cambridge.

The Atmosphere. By A. J. Berry, M.A., Lecturer in Chemistry at Downing College. Price 1*s.* net.

The Story of a Loaf of Bread. By T. B. Wood, M.A., Drapers Professor of Agriculture in the University of Cambridge. Price 1*s.* net.

URBAN UND SCHWARZENBERG, Berlin und Wien.

Technik der ärztlichen Massage. Fur praktische Aerzte. Von Dr. Anton Bum, Privatdozent an der Wiener Universität. Price M. 3.40.

Uc[illegible] Von Dr. Wilhelm [illegible] ogischen Abteilung [illegible] rice M. 4.

H[illegible] ns. Von Dr. med. [illegible] in Berlin. Price, paper, M. 15; bound, M. 17.

Innere Sekretion. Ihre physiologischen Grundlagen und ihre Bedeutung für die Pathologie. Von Prof. Dr. Artur Biedl, Wien. Mit einem Vorwort von Hofrat Prof. Dr. R. Paltauf, Wien. Zweite, neubearbeitete Auflage. Erster Teil. Price, paper, M. 24; bound, M. 26.

Atlas der Hautkrankheiten, mit Einschluss der wichtigsten Venerischen Erkrankungen. Für praktische Aerzte und Studierende. Von Dr. E. Jacobi, A.O. Professor und Direktor der Dermatologischen Universitäts-Klinik in Freiburg i. Br. Fünfte Auflage. Zwei Bände. Price, paper, M. 45; bound, M. 50.

L. Landois' Lehrbuch de[illegible] Berücksichtigung der [illegible] Bearbeitet von Dr. R. [illegible] und Direktor des physiologischen Instituts der Westfalischen Wilhelms-Universitat zu Munster. Erster Band. Price, paper, M. 9; bound, M. 10.

Fortschritte der Naturwissenschaftlichen Forschung. Herausgegeben von Prof. [illegible] des physiologischen Institutes [illegible] benter Band. Price, paper, M. 15; [illegible]

VOGEL, F. C. W., Leipzig.

Spezielle Chirurgische Diagnostik. Für Studierende und Aerzte. Bearbeitet von Dr. F. de Quervain, O. O. Professor der Chirurgie und Direktor der chirurgischen Universitätsklinik in Basel. Vierte, vervollständigte Auflage. Price, paper, M. 18; bound, M. 20.

Appointments.

Successful applicants for V[illegible] Public Institutions, and others possessing [illegible] this column, are invited to forward to [illegible] cted to the Sub-Editor, not later than [illegible] morning of each week, such information [illegible]

BLOOM, A., M.B., Ch.B. Edin., has been appointed House Physician at the Hampstead General Hospital.

BOYD, F. D., C.M.G., M.D. Edin., F.R.C.P. Edin., has been appointed Physician to th[illegible] Infirmary.

CARRICK, JAMES, [illegible] en appointed Assistant Medical Officer [illegible] Paisley.

COMRIE, J. D., [illegible], has been appointed Assistant Physician to the Edinburgh Royal Infirmary.

ERL[illegible] Edin., has been appointed House Surgeon [illegible] al Hospital.

FRE[illegible] F.R.C.S. Edin., has been reappointed [illegible] tol General Hospital.

GRAHAM, LEWIS, M.B., M.S. Lond., F.R.C.S. Eng., has been appointed Honorary Surgeon and Registrar to the Birmingham and Midland Hospital for Women.

[illegible] D.P.H., has been appointed Medical Officer [illegible] of Mansfield, Notts.

[illegible] has been appointed Visiting Physician [illegible] Glasgow.

MCNAIR, A. J., M.B., B.C., has been appointed Clinical Assistant to the Chelsea [illegible]

MANSFIELD, [illegible] on., has been appointed Certifying Surgeon [illegible] Workshop Acts for the Sevenoaks District of the county of Kent.

MORTON, C. A., F.R.C.S. Eng., has been reappointed Surgeon to the Bristol General Hospital.

OSMOND, CHARLES HOLDWAY, L.F.P.S. Glasg., L.S.A. Lond., has been appointed Medical Officer to the Ilfracombe District by the Barnstaple (Devon) Board of Guardians.

PARKIN, ALFRED, M.D. Durh., F.R.C.S. Eng., M.R.C.P. Lond, has been appointed Honorary Physician to the Royal Victoria Infirmary, Newcastle-on-Tyne.

ROWNTREE, CECIL, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Surgeon to the St. Marylebone General Dispensary.

ROY, DONALD W., M.B., B.C. Cantab., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Samaritan Free Hospital for Women.

STEPHENSON, SYDNEY, D.O. Oxon., has been appointed Ophthalmic Surgeon to King Edward Memorial Hospital, Ealing, W.

STOPFORD, J. S. B., M.B., Ch.B. Manch., has been appointed Senior Demonstrator of Anatomy in the University of Manchester.

STRACHAN, G. I., M.B., Ch B. Glasg., has been appointed House Physician at the Bristol Royal Infirmary.

SUTCLIFFE, W. H., L.K.Q.C.P.I., L F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Lisbellaw District of the county of Fermanagh.

WALLACE, J. M., M.R.C.S., L.R.C.P.Lond., has been appointed Assistant Casualty Officer at the Camden Town Branch of the Hampstead General Hospital.

WATSON, J. K., M.D., C.M.Edin., has been appointed Certifying [illegible]

[illegible] Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

[illegible] washing.

[illegible] —Assistant [illegible] six months. [illegible] lodging, and washing.

BRIGHTON AND HOVE HOSPITAL FOR WOMEN.—House Surgeon, unmarried, for six months. Salary £80 per annum, with apartments, [illegible]

[illegible] urgeon. [illegible] House [illegible] lary £80 [illegible] House [illegible] m, with [illegible] Officer [illegible] board, [illegible] Second [illegible] uarters, [illegible] se Phy- [illegible] tments, board, and laundry.

[illegible] Officer, unmarried. [illegible] washing, and [illegible] Officer. Salary [illegible]

[illegible] M, Garlands.— [illegible] er annum, with [illegible]

[illegible] Physician. [illegible] ndry. [illegible] l Assistant [illegible], with board, [illegible] geon. Salary £100 [illegible] it House Surgeon, [illegible] n, with board and laundry.

DORCHESTER, DORSET COUNTY ASYLUM.—Third Assistant Medical [illegible]

[illegible] Officer in Kings- [illegible] Surgeon for six [illegible] ence, board, and washing.

[illegible] £120 per annum, [illegible] Salary at rate [illegible] Assistant House [illegible] per annum, with board, apartments, and washing.

EXMINSTER, DEVON COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary £130 per annum.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary [illegible]

GRE [illegible]

HAL [illegible] washing.

HASTINGS, EAST SUSSEX HOSPITAL.—Senior House Surgeon. Salary £100 *per annum, with residence, board, and washing. Also* Assistant House Surgeon. Salary at rate of £70 per annum, with [illegible]

[illegible] —Third Assistant Medical [illegible] nnum, with board, apart- [illegible]

[illegible] PITAL.—Resident Medical [illegible] ooms, board, and washing.

[illegible] mond-street, London, W.C.— [illegible] unmarried, for six months.

HUI [illegible] o Surgeon. [illegible] ng.

INF [illegible] ASYLUMS [illegible] Salary £180 per annum, with board, lodging, and washing.

LEAMINGTON SPA, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL AND MIDLAND COUNTIES BATHING INSTITUTION.—House Physician. Salary £85 per annum, with board, residence, and laundry.

LEEDS GENERAL INFIRMARY.—Resident Obstetric Officer for six months. Salary £50 per annum, with board, residence, and laundry. Also Two House Surgeons without salary, but with board, residence, and laundry.

L [illegible] Honorary Surgeon and Assistant [illegible] ant House Surgeon and Assistant [illegible] Salary at rate of £30 per annum, with board, apartments, and washing.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House Surgeon. Salary £100 per annum, [illegible]

LIV [illegible] geon. Salary £75 per [illegible]

MAC [illegible] Parkside.—Temporary [illegible] months. Salary £4 4s. per week, with apartments, board, and washing.

[illegible] Medical Assistant. [illegible] washing.

[illegible] AND CHILDREN, [illegible] Junior House [illegible] respectively, with apartments and board.

MANCHESTI [illegible] dical Officer in Aural Departı [illegible]

MANCHESTI [illegible] Assistant Medical Officer, [illegible], with rations, apartments, [illegible]

METROPOLI [illegible] E.—Pathologist and Registr [illegible] nnum. Also House Physician, House Surgeon, Assistant House Physician, and [illegible]

[illegible] £50 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—*Vacancies on the Visiting Medical* Assistants' Staff. Salary £160 per annum.

NEWCASTLE-ON-TYNE HOSPITAL FOR SICK CHILDREN.—Junior House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Casualty Officer for six months. Salary £60 per annum, with *board, lodging,* and washing. Also House Surgeon. Salary £80 per annum, with [illegible]

NOT [illegible]

NOT [illegible]

OLI [illegible] £260 per annum.

OXFORD, WARNEFORD MENTAL HOSPITAL.—Assistant Medical Officer. Salary £150 per annum, with apartments, board, attendance, and laundry.

[illegible] W.—House [illegible] n each case [illegible] Salary at [illegible]

POR [illegible] 's HOME.— [illegible] Salary £120 [illegible]

PRE [illegible] dical Officer, [illegible] ments, and washing.

PRESTON ROYAL INFIRMARY.—Senior House Surgeon, unmarried, for six months. Salary £80 per annum, with board, residence, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road.—House Physician and House Surgeon for six months. *Salary at rate of* £50 per annum, with board, residence, and washing.

READING, ROYAL BERKSHIRE HOSPITAL.—Second House Surgeon for six months. Salary £80 per annum, with apartments, board, and washing.

Rhondda Urban District Council.—Assistant Medical Officer of Health. Salary at rate of £250 per annum.

Richmond, Surrey, Royal Hospital.—Assistant House Surgeon. Salary £70 per annum, with board and apartments.

Rochdale Infirmary.—Two House Surgeons, unmarried. Salaries £80 and £100 per annum respectively, with board, residence, and laundry.

Rotherham Hospital and Dispensary.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Royal Army Medical Corps.—Commissions.

Royal College of Surgeons of England.—Examiners.

Royal London Ophthalmic Hospital, City-road, E.C.—Third House Surgeon. Salary at rate of £50 per annum, with board and residence.

St. George's Hospital, S.W.—Assistant Physician.

Salford County Borough Education Committee.—Assistant School Medical Officer. Salary £250 per annum.

Samaritan Free Hospital for Women, Marylebone-road, N.W.—Assistant Surgical Registrar for six months

Scarborough Hospital and Dispensary.—Senior House Surgeon. Salary £100 per annum, with residence, board, &c. Also Junior House Surgeon for six months. Salary £80 per annum, with residence, board, &c.

Sheffield, Jessop Hospital for Women.—Senior and Assistant House Surgeons, unmarried. Salaries £80 and £60 per annum respectively, with board, residence, and laundry.

Sheffield Royal Hospital.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging,

Sheffield Royal Infirmary.—Two House per annum. Also Junior House Surgeon. Also Assistant House Physician. Salary £70 per annum. With board and residence.

Southampton, Free Eye Hospital.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

South Shields, Ingham Infirmary and South Shields and Westoe Dispensary.—Senior and Junior House Surgeons. Salaries £100 and £90 per annum respectively, with residence, board, and washing.

West Bromwich and District Hospital.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

West Hartlepool, Cameron Hospital.—House Surgeon. Salary £120 per annum, with board, rooms, laundry, &c.

Willesden Urban District Education Committee.—Treatment of Cases of School Children suffering from Ringworm. Salary £100 per annum.

Winchester, Royal Hampshire County Hospital.—House Surgeon. Salary £80 per annum.

Wisbech, North Cambridgeshire Hospital.—Resident Medical Officer. Salary £150 per annum, with unfurnished house, free of rent and rates.

Wolverhampton and Staffordshire General Hospital.—Resident Medical Officer. Salary at rate of £100 per annum, with board, rooms, and laundry.

The Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Lochee, in the county of Forfar; at Clwtybont, in the county of Carnarvon; and at Sileby, in the county of Leicester.

The Home Secretary gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for the Counties of Elgin and Nairn.

Births, Marriages, and Deaths.

BIRTHS.

Ellis.—On March 30th, at Maple-road, Bournville, Birmingham, the wife of F. W. Ellis, M.D., F.R.C.S., of a son.

Highet.—On April 3rd, at Bangkok, Siam, the wife of H. Campbell Highet, M.D., D.P.H., Principal Medical Officer, Local Government, of a son.

Thompson.—On April 4th, at Tutshill, Chepstow, to the wife of Cecil C. B. Thompson, M.R.C.S., L.R.C.P., a daughter.

Wheeler.—On April 5th, at North-street, Rugby, the wife of J. Norman Wheeler, M.B., B.C., of a daughter.

Witney.—On March 31st, at Cromwell House, Whitstable, to Dr. and Mrs. Witney, a son.

MARRIAGES.

Dee—Kelly.—On April 2nd, at the Catholic Church, Clacton-on-Sea, Joseph Patrick Dee, M.D., to Margery, eldest daughter of M. S. Kelly, Walton-on-Naze.

Forster—Rowe.—On April 3rd, at St. James's, Piccadilly, Charles Michael Forster, B.A. Cantab., M.R.C.S., L.R.C.P., to Mary Margaretta, second daughter of the late Almond Rowe, Straits Settlements Civil Service.

West—Finchett.—On April 3rd, at All Saints', Margaret-street, W., by the Rev. Wilfrid Moor, Henry Owen West, M.D., eldest son of the Rev. John O. and Mrs. West, of Wednesbury, to Annie, third daughter of the late William Henry Finchett and Mrs. Finchett, of Chester.

DEATHS.

Dawson.—On April 1st, from heart failure and pneumonia, Rankine Dawson, M.D., aged 55.

Harvey.—On April 4th, at Headley, Hants, after much suffering, Emily Margaret Viola, aged 21 years, only daughter of Sidney Harvey, 117a, Queen's-gate, S.W. Indian and colonial papers please copy.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC-HOUSE REFORM.

In The Lancet of Oct. 19th, 1912, we called attention to a little pamphlet on the Public-House Trust, an organisation having for its object the checking of intemperance by elevation of the status and morals of the public-house, by restoring it to its proper place as a house of refreshment rather than a mere drinking shop. We have now before us a book entitled "Public-House Reform," issued by the People's Refreshment House Association, of Broadway Chambers, Westminster, both the book and the institution having a kindred purpose to that of the Public-House Trust. The association, which was registered under the Industrial and Provident Societies Act, 1893, was founded by Colonel Craufurd and the Bishop of Chester in 1896, and has for its object the acquiring of suitable public-houses and the placing of them under the charge of its own managers. The houses are conducted on the lines of respectable houses of refreshment instead of as mere drinking bars; food and non-intoxicants are exposed for sale on an equal footing with intoxicants. The manager is relieved from any temptation to push the sale of intoxicants from the fact that he is charged the full retail price for all alcoholic drinks consumed, whereas he is supplied with non-alcoholic drinks and food at a wholesale rate, which enables him to make a profit thereon. Great care is taken to avoid the adulteration of liquor. The invested capital is entitled out of profits to a dividend not exceeding 5 per cent. per annum, any surplus, after providing for a reserve fund, being devoted to objects of public utility, local or general. The first inn taken over was one at Sparkford, Somerset, in October, 1897. The growth of the association may be seen in the fact that whereas at the beginning of 1901 it controlled 14 houses, it now controls 113. The maximum dividend has been earned continuously since 1899, the assets have increased from £3500 to nearly £100,000, and the reserve fund stands at £3600. Every house has a comfortable tea-room distinct from the bar, and most have tea-gardens, many of them having also well-furnished bedrooms. There are, of course, no "tied" houses There are frequent inspections at irregular intervals, and while prominent attention is called by notices to non-alcoholic beverages and foods, no advertisement of intoxicating liquors occurs except in the necessary price lists. A perusal of the instructions to managers indicates the great care taken to maintain the supremacy of the purposes for which the association exists, and there is abundant testimony forthcoming of the elevating tendency of the work in those districts where it is in operation. The book contains a list, by counties, of the inns and hotels under the association's management, with particulars of the house and neighbourhood, and distance from the nearest station, and the pictures of many of them make quite an attractive appearance. The statement is made that "It is quite obvious that public-houses will always be with us, and the principal question is therefore whether they shall be conducted on a good or a bad system," and since experience proves that the reduction of public-houses is generally followed by the rise of drinking clubs, which cannot be easily controlled, there seems little doubt that this and the kindred associations, of which there are several, catering especially to the particular local needs of different districts, are deserving of every support.

"THE RISING OF THE LIGHTS."

To the Editor of The Lancet.

Sir,—May I refer "G. S. M" and the author of your annotation on Enterotaxis to Graunt's "Observations on the Late Bills of Mortality." This little book was first published, I think, in 1662. In it will be found the statement that there had recently appeared in England two new and fatal diseases, "the Rising of the Lights and the Stopping of the Stomach." The association suggests the symptoms of eructation and distension. The term "rising of the lights" was, I believe, applied to any grave disorder of unknown origin in which these symptoms were prominent. The suggested pathology was, of course, based on an erroneous conception.

The book itself is otherwise of interest as one of the earliest contributions in this country to the science of statistics. It contains several remarkable passages, among them a prophecy of the industrial revolution to follow the widespread use of "stone-coal." The author also sets forth observations on and deductions from the rapid growth of London, where already, at that early date, Ludgate Hill is described as "a throat too strait for the body."

All the above is quoted from memory, as I cannot here consult either the work itself or references to it. The identity, however, of this writer on the "rising of the lights" is still, I believe, uncertain. Graunt was one of the early Fellows of the Royal Society and is mentioned by contemporary writers, including both Pepys and Evelyn. In Evelyn's

Diary, in the entry for March 22nd, 1675, is a delightful description of a supper at the house of Sir William Petty. Evelyn gives an account of Petty's life, terminating with the remark: "He [Petty] is the author of the ingenious deductions from the bills of mortality which go under the name of Mr. Graunt. .... He was also author of that paraphrase on the 104th Psalm in Latin verse which goes about in MS. and is inimitable. *In a word, there is nothing impenetrable to him.*" Burnet also remarks (*"Own Times," Vol. I., p 401, ed. 1823) that* "Sir William Petty published his Observations on the Bills of Mortality in [illegible] abilities. He was the author of the "Political Arithmetic," and was the father of statistical science. That study, however, formed but a fraction of his activity. Thus he was professor of anatomy at Oxford and of music at Gresham College! Later he became physician to the *army in Ireland, and he subsequently took part in the Commission for* the division of the lands forfeited by the Irish rebels. Manuscripts in Petty's handwriting relating to this Commission have, I believe, been presented to Oxford University by Sir William Osler, who recently read a paper on Petty before the Historical Section of the Royal Society of Medicine (THE LANCET, Nov. 30th, 1912, p. 1504).

It would be interesting to know whether any reference to the "rising of the lights" earlier than that of *Petty* or *Graunt is known to your* readers. I am, Sir, yours faithfully,

Heidelberg, March 31st 1913. CHARLES SINGER.

To the Editor of THE LANCET.

SIR,—If "Rising of the Lights" as a popular phrase stands for "dyspepsia" in Lancashire, or for "emphysema" or "displacement of organs" in Scotland or other places where the masses may be *scientifically educated, in London it stands, or at least used to stand,* for "profuse expectoration" or "a power of *spit.*" (Spitalfields, the parish of Dr. H. Stone's father, may possibly have been an exceptionally enlightened district at the time referred to by Dr. Ackerley in his letter in your issue of April 5th, and thus may have corrected the prevalent London vernacular. I knew Dr. Stone well, however; but among his many tales and witticisms I never heard this rendering of the familiar phrase in question.)

From my student days to the time when I ceased to see out-patients in the East of London I frequently heard this magniloquent phrase, which always indicated "spit" as a *fact*, but "lung disease,' or "consumption," as the patient's *diagnosis.*

I am, Sir, yours faithfully,

Ventnor, April 5th, 1913. H. BRYAN DONKIN.

To the Editor of THE LANCET.

SIR,—The many communications that have appeared in THE LANCET in response to the question mooted in your annotation of March 15th have not removed that question from the region of conjecture. I submit that, as far as affecting horned cattle at any rate, the following heading to one of the sections in an old book is unequivocal. "Of the Inflammation of the Lungs, commonly called the rising of the Lights." The book is entitled, "A Treatise on the Disorders incident to Horned Cattle," its author's name is Thomas Rowlands, and it was printed at Bangor by John Broster in 1812. "Rising in the Body," mentioned in the annotation as given in Bailey's Dictionary, 1737, as the name of a distemper in cattle, is not among Rowlands's disorders.

I am, Sir, yours faithfully,

April 8th, 1913. W. R.

HEALTH OF ST. LUCIA.

ACCORDING to the report on the Blue-book of St. Lucia for the year 1911-12, just presented to Parliament, the estimated population of the colony on March 31st, 1912, was 49,205—22,521 males and 26,684 females. The birth-rate for the year ended on the same date was 35·5 per 1000 and the death rate 20·2 per 1000, still births being excluded in each case. There were 251 marriages during the year. All the medical officers report the health of the colony during the year to have been generally satisfactory, with the exception that in the Castries, Soufrière, and Vieux Fort districts there were outbreaks among children of measles and whooping-cough, whilst a sharp outbreak of *influenza occurred in Castries during* the month of February. Sanitary matters received strict attention during the year, and the work continues to be well carried out. The heavy rains, it was found, washed out the "millions" fish that had been distributed in certain localities to keep down the number of mosquitoes. The places were at once re-stocked, and the fish soon regained their former numbers. The average rainfall at 20 stations in the year 1911 was 114·01 inches. The mean monthly temperature in the shade was 78·4°F; the maxium shade temperature was 92° on Sept. 16th and the minimum 60° on Feb. 19th.

The only general hospital in the colony is the Victoria Hospital, within half a mile of Castries, a large stone building with outhouses, &c., capable of accommodating 80 patients. The daily average during 1911-12 was 65, and the cost worked out at £26 per head. Considerable outlay has been incurred latterly in connexion with this institution in an attempt to improve and uplift the tone and condition generally, which is meeting with fair success. In the town of Soufrière and at the villages of Vieux Fort and Dennery, where there are resident medical officers, small buildings are provided and fitted to serve the purposes of casualty hospitals, and as such are very useful. There are seldom more than two or three cases under treatment at a time at these places, and often they are empty. *Situated on a breezy spot near the sea beach within a mile of the town of Soufrière is the general poor asylum,* which takes in and makes good provision for the human wreckage of the colony, the majority of which drift there only in the last stage preceding dissolution. This provision for paupers of the island is supplemented by an outdoor relief system under the supervision of the Police Department. Lower down on the shore itself is the Yaws Asylum, with a daily average of about 46·42; and here also, in addition to yaws patients, two or three lepers are housed, for whom separate accommodation has not yet been provided. There are visiting stations at various *points where medical officers attend regularly on fixed days,* and are available to those who require their services. At Castries the medical officer in charge of the Victoria Hospital dealt with a very numerous out-patient *clientèle* from the town at the hospital dispensary, but this has now been changed and a separate dispensary established in the town, which is a preferable arrangement.

THE REMOVAL OF TATTOO MARKS.

R. B. (M.D.) writes.—I have a patient, a girl, who some time ago was tattooed by her mother on the face. The friends are now anxious to get the marks erased. Can you, or your readers, inform me how this can be done, and oblige?

*** There are several methods by which tattoo marks may be removed, and the choice of the method to be employed depends on the character of the marks. If they are small and scattered the electric needle is best suited for removing them; if they are larger a skin punch will often prove useful, while if they are very extensive some form of skin-grafting will be the most suitable method to employ. It is obvious that much skill is required in the use of these methods to prevent the replacement of one form of disfigurement by another. When the operation is carefully done the results are very good. Caustics are, on the whole, unsuitable, and the scars produced are not sightly.—ED. L.

A TUBERCULOSIS CIRCULAR.

AN instructive circular on tuberculosis prevention comes to us in the shape of *Bulletin*, No. 9, Vol. II, of the Tuberculosis League of Pittsburgh, U.S.A. The circular gives reasons for stating that in order to prevent tuberculosis we must take care of our children from the cradle through childhood, details the statistics of tuberculosis in childhood, and of [illegible] to the questions, [illegible] handled? What [illegible] and institutions, in schools, in Sunday schools, in playgrounds, and in hospitals? and How can these weaknesses be reached in each of the foregoing environments? It urges the formation of a series of hospital schools in which the sick tuberculous children from the public schools can be helped to regain health while continuing their education, and of a series of open-air schools for anæmic and backward children. It also details the things accomplished by the league as follows: the establishment of an open-air school, a hospital school, a babies' dispensary, and an orphanage open air school. A plan for the systematic education of school children on tuberculosis which was devised by the league received the second prize at the International Congress, and has been widely copied.

STRAITS SETTLEMENTS' HEALTH REPORT.

THE annual report on the Straits Settlements for the year 1911 (not [illegible] the population [illegible] The death- [illegible] compared with 41·88 in 1910 and 37·40 in 1909. The birth-rate in 1911 was 25·38 *per* 1000, compared with 27·55 in 1910. There were 393 deaths from small-pox, 343 from cholera, and 32 from plague. The deaths from beri-beri were 2056, as compared with 1737 in the previous year. The use of cured rice in the different institutions of the colony has lessened the death-rate from this disease.

Phthisis increased in a markedly unhealthy year, there being 2907 deaths returned *from this disease, compared with* 2571 *for* 1910, 2659 in 1909, and 2938 in 1908. It must be remembered (the report points out) that with greater facilities for travelling in *the Straits more* decrepits find their way into the big towns to increase the death-rate, and the population is shown to have increased 139,702 in the past ten years. Improvement in the death rate from this disease is hoped to be shown in a few years when time is given for the sanitary conditions *of the bigger towns to improve by the gradual construction of* back lanes, improved drainage, more cubic space and less overcrowding, more air and sunlight, &c.—matters now being taken in hand by the municipalities.

Dysentery was the cause of 2035 deaths, as against 1329 in 1910 and 1211 in 1909. A large addition to the water-supply of Singapore has but lately been completed; improvement of the water supply of other districts is under consideration, and it is trusted that progress on these lines may tend to lessen the incidence of the disease. There was widespread increase of malaria throughout all the Settlements—an increase which has been steady and progressive for several years. The death-rate from this disease also shows corresponding increase, a conspicuous feature being the number of cases of a malignant type. The deaths from malaria in all Settlements (excluding Labuan) were 5769 for the year, compared with 3245 in 1910 and 2589 in 1909. A crusade against this disease is being undertaken, but some years must elapse before any very tangible results are likely to be seen. An Estate Labourers' Protection of Health Ordinance has been passed which should lead, when in full work, to some reduction in the death-rate, more especially from malaria and dysentery, for it is undoubted that many broken-down coolies from estates proceed to the nearest town, where they not only increase the death-rate but are also a source of danger to those around them. The accommodation in all hospitals was taxed to the utmost throughout most of the year. The total number of admissions was 44,026, as compared with 32,979 in 1910 and 27,543 in 1909. The rate of mortality in 1911 was 13·04 per cent. (as against 12·69 per cent. in 1910) of the total cases treated. The number of inmates in the leper asylums increased from 440 to 471, and there were 173 deaths.

The mean temperature of the air in Singapore was 81·3°F, in Penang 81·7°, in Province Wellesley 81·4°, in Malacca 80·0°, and in Labuan 81·6°. The rainfall was 92·72 inches in Singapore, 99·82 in Labuan, 85·70 in Penang, 68·65 in Wellesley Province, 67·44 in Malacca, and 82·2 in Dindings. The prevailing direction of the wind changes with the N.E. and S.W. monsoons, the former blowing from November to April, and the latter from May to October.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Dr. W. Watson: On the Luminosity Curves of Persons having Normal and Abnormal Colour Vision.—Prof. J. C. McLennan: On a Fluorescence Spectrum of Iodine Vapour (communicated by Sir J. Larmor).—Dr. W. Wahl: The Relation between the Crystal-symmetry of the Simpler Organic Compounds and their Molecular Constitution. Part I. (communicated by Sir J. Dewar).—Mr. J. J. Manley: Of the Purification of Phosphorus Pentoxide for Use in High Vacua (communicated by Prof. J. H. Poynting).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SPECIAL MEETING OF FELLOWS OF THE SOCIETY: at 5 P.M.

Discussion:

On Alimentary Toxæmia: its Sources, Consequences, and Treatment. (Second Meeting.)

The discussion will be re-opened by Mr J. B. Lawford and continued by Prof. W. E. Dixon, F.R.S., Dr. J. C. G. Ledingham, Dr. James Galloway, Dr. A. Mantle, Dr. A. F. Hertz, Mr. J. G. Turner, Mr. Frank Coleman, Mr. S. H. Browning.

The Third Meeting will be held on Monday, April 21st, at 5 P.M., when the discussion will be re-opened by Mr. Lockhart Mummery.

TUESDAY.

SECTION OF THERAPEUTICS AND PHARMACOLOGY (Hon. Secretaries: H. H. Dale, W. Langdon Brown): at 4.30 P.M.

Discussion:

On the Use of Salvarsan and Neosalvarsan in Diseases other than Syphilis (to be opened by Dr. Byrom Bramwell: Use in Pernicious Anæmia).

Dr. Parkes Weber, Dr. William Hunter, Dr. T. J. Horder, and Mr. J. E. R. McDonagh will take part.

The Hon. Secretaries will be glad to hear from Fellows of the Society or Members of the Section who can contribute to the discussion.

GENERAL MEETING OF FELLOWS at 5 P.M.

Election of Candidates for Fellowship.

THURSDAY.

SECTION OF BALNEOLOGY AND CLIMATOLOGY (Hon. Secretary—Chas. W. Buckley): at 5.30 P.M.

Papers:

Dr. Edgecombe: The Significance, Treatment, and Prognosis of High Blood Pressure.

Dr. A. Mantle: The Undesirability in Confirmed Cases of High Blood Pressure of actively applying Therapeutic Means to Reduce it.

SECTION OF DERMATOLOGY (Hon. Secretaries—Wilfrid Fox, J. M. H. MacLeod): at 5 P.M.

Cases:

Dr. Whitfield: An Unusual Case of Papulo-necrotic Tuberculide. And other Cases.

SPECIAL EVENING MEETING: at 8.30 P.M.

Subject:

Malignant and Doubtfully Malignant Tumours of the Skin (with drawings, lantern slides, and microscopical sections.)

SECTION OF NEUROLOGY (Hon. Secretaries—Wilfred Harris, T. Grainger Stewart): at 8.30 P.M.

Dr. H. Howard Tooth, C.M.G.: Gumma Cerebri—Results of Treatment, Medical and Surgical. Lantern Demonstration illustrating Histological Features.

Dr. F. E. Batten: Cerebral Symptoms in a Bull-dog associated with Lymphocytic Infiltration of Vessels and Membranes of the Brain and Cord.

Dr. James Collier and Dr. S. A. K. Wilson: The Clinical and Pathological Data of a Case of Dermato-myositis with Intense Muscular Atrophy in the Cervical Region and Disease of the Thyroid Gland.

FRIDAY.

SECTION OF OTOLOGY (Hon. Secretaries—H. J. Davis, G. J. Jenkins): at 5 P.M.

Discussion:

On Functional and Simulated Affection of the Auditory Apparatus (to be opened by Mr. T. Mark Hovell).

SECTION OF ANÆSTHETICS (Hon. Secretaries—H. J. Scharlieb, C.M.G., H. E. G. Boyle): at 8.30 P.M.

Annual General Meeting.—Election of Officers and Council for Session 1913–1914.

SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—Cecil R. C. Lyster, G. Allpress Simmons): at 8.30 P.M.

Consideration of the Use of X Rays in the Diagnosis of Gastric Ulcer.

Papers:

Dr. A. C. Jordan: Gastric Ulcer.

Dr. A. E. Barclay: The Etiology of Gastric Ulcer.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., Clinical Cases and Pathological Specimens will be exhibited by Dr. F. P. Weber, Mr. E. M. Corner, Mr. C. V. Anderson, Dr. J. L. Bunch, Dr. E. H. Shaw, Dr. Jewesbury, Mr. A. E. Barker, and others.

CHARITY ORGANISATION SOCIETY, *Denison House, Vauxhall Bridge-road, S.W.*

MONDAY.—4.30 P.M., Special Meeting of the Council. Mr. H. D Scott and Mr. W. Buckley: The Best Means of Increasing the Supply of Pure Milk.—Dr. R. Dudfield: The Supply of Suitable Milk for Infants.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., *Demonstration of Pathological Specimens. Cases sent for Consultation.* Demonstration of Clinical Cases by Dr. Dockrell, Dr. Bunch, Dr. Sibley, Dr. Galbraith, and Dr Griffith. 5.15 P.M., *Discussion on Electrical Procedures in Diseases of the Skin and Mucous Membranes (opened by Dr. W. K. Sibley).*

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Papers:—Dr. V. B. Orr: The Work of a Tuberculin [illegible] The Use of Tuberculin in Diagnosis [illegible] y a Discussion in which Dr. Barcroft, [illegible] F. N. Griffiths, Dr. C. McClure, and others will take part.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

THURSDAY.—7.30 P.M., Prof. J. A. Green: The Backward Child in the Ordinary School.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. Shattock: Specimens illustrating Hypertrophy. (*Museum Demonstration.*)

FRIDAY.—5 P.M., Prof. Keith: Specimens illustrating Congenital and Acquired Deformities of the Foot. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

TUESDAY.—4 P.M., Dr. E. B. Smith: Clinique (Medical). 5.15 P.M. Lecture:—Mr. R. Lake: [illegible]

WEDNESDAY.—4 P.M., Mr. R. F [illegible] 5.15 P.M. Lecture:—Mr. E. Clarke [illegible] Health (illustrated [illegible] Fundus Oculi, contrasted [illegible] by lantern slides).

THURSDAY.—4 P.M., Mr. J. Cunning: Clinique (Surgical). 5.15 P.M. Lecture:—Mr. E. M. Corner: Alimentary Intoxication.

FRIDAY.—4 P.M., Mr. J. Cunningham: Clinique (*Eye*).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 [illegible] Women. 2 P.M., Medical and Surgical Clinics. [illegible] 2.30 P.M., Diseases of the Eye

TUESDAY.—10 [illegible] 2 P.M., [illegible] and Surg [illegible] es of the Throat, Nose, and Ear. 2.30 [illegible] s of

WEDNESDAY.—10 A.M., Diseases of Children. [illegible] Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operati [illegible] Diseases of Women [illegible] X Rays. Opera

THURSDAY.—2 P.M., [illegible] the Eye. [illegible] tions. Orthopæ [illegible] 2 P.M., Medical and

FRIDAY.—10 A.M., Gynæcologi [illegible] the Throat, Surgical Clinics. X Rays. [illegible] Nose, and Ear. 2.30 P.M., [illegible] ions of

SATURDAY.—10 A.M., [illegible] ye. 2 P.M., Medical Throat, Nose, and [illegible] and Surgical Clinic [illegible]

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. [illegible]
Throat, [illegible]
3 P.M., [illegible]
Duckwo[illegible]

TUESDAY.—[illegible]
Medical [illegible]
Skin.—[illegible]
R. Carl[illegible]

[illegible]
Lecture:—Mr. Wm. Turner: Psoas Abscess.

FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford; Medicine 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical, Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——10 A.M., Radiography.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.

Course of Lecture-Demonstrations on Diseases of the Chest, with Special Reference to Tuberculosis (including a Tuberculin Course):—

MONDAY.—4.30 P.M., Mr. A. Evans.
FRIDAY.—4.30 P.M., Dr. Phear.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

THURSDAY.—6 P.M., Dr. M. Dockrell: Syphilis and Tuberculosis as Modifying Factors in the Diagnosis and Treatment of Eruptions of the Skin.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

TUESDAY.—3 P.M., Prof. W. Bateson: The Heredity of Sex and some Cognate Problems. (Lecture I.)
FRIDAY.—9 P.M., Dr. T. M. Lowry: Applications of Polarised Light (with experiments).

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. A. Renshaw: The Application and Interpretation of the Wassermann Reaction (Post-Graduate Clinic.)

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MON[illegible] the Presenta-[illegible] 11 A.M., [illegible]
TU[illegible] in Gynæcological Diagnosis.
WEDNESDAY.—10 A.M., Obstetrical Lecture: Mechanical Obstacles to Delivery. 11 A.M., Examination of Patients and Minor Operations.
THURSDAY.—10 A.M., Major Operations
FRIDAY.—10 A.M., Gynæcological Lecture: Pelvic Infection. 11 A.M., Examination of Patients and Minor Operations. 4 P.M., Class in Gynæcological Diagnosis.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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ON THE

PRINCIPLES AND TECHNIQUE OF THE OPERATIVE TREATMENT OF MALIGNANT DISEASE OF THE MOUTH AND PHARYNX.

Delivered before the Royal College of Surgeons of England on March 3rd and 5th, 1913,

By WILFRED TROTTER, M.S. Lond., F.R.C.S. Eng.,
ASSISTANT SURGEON, UNIVERSITY COLLEGE HOSPITAL.

LECTURE I.

Delivered on March 3rd.

Mr. President and Gentlemen,—The respects in which the surgery of cancer of the mouth and pharynx falls below the standard that has been reached in many other departments of the art may be classified in three groups. First and most important is the uncertainty of cure; secondly, the danger of the operation and the distresses of the convalescence; and thirdly, the mutilation and disability which may be left by an operation otherwise perfectly successful.

The Uncertainty of Cure.

There can be no doubt that this is the great stumbling-block of surgeon and patient alike. It prevents the latter seeking advice in the earliest stages of his malady because he usually suspects its nature and is probably possessed of the deeply rooted conviction that cancer is incurable, while the former is discouraged from the hopeful and enterprising attitude which alone can lead to progress. He is aware that in any but the earliest cases he may submit his patient to a dangerous operation and a distressing convalescence, only to leave him still a victim to the disease the course of which will, perhaps, not even have been mitigated. This consideration applies, no doubt, to all operations for malignant disease, but is of particular force in regard to malignant disease of the mouth and pharynx. Here, when recurrence after operation takes place, it usually does so within a few months, so that the patient has not even secured from the treatment a moderate interval of comfort and good health.

This liability to early recurrence has, however, one less gloomy aspect, and that is, that should the patient remain well for a relatively short time he may be assured that the chance that permanent cure has been effected is very great. Many authorities seem to be of opinion that a year's freedom from recurrence is good evidence of cure in the case of squamous epithelioma. I have myself seen only one case in which a true recurrence occurred after a longer interval, and would venture the opinion that if at the end of 12 months from the operation the most careful examination fails to show any suspicion of disease, a very favourable prognosis may be given. Such a decision must, however, be founded on very careful examination, and needs a certain amount of experience to give it much value. For the purpose of considering the results of treatment in general it is, I think, desirable to double the period of probation, and not to regard cases as cured with any certainty until two years have elapsed. In these remarks I am, of course, leaving out of account cases of a second outbreak of the disease, such as will occur, for example, in a distinct part of a leucoplakic tongue many years after a growth has been removed.

An early superficial carcinoma on the free part of the tongue, if treated with due regard to modern principles, should be, and is, curable in practically all cases. The principles, through the application of which such results can be obtained, we owe to the late Sir Henry Butlin.* His formulation of upon a systematic gla work in the advancem lculably enlarged the resources of surgery, and have furnished other workers in the field of his enthusiastic labours with a rich endowment of hope.

When, however, we turn to the more advanced cases and to growths in less easily accessible regions, we find the extent to which we can expect cure in any given case is greatly reduced. It is just in these cases that a reason prospect of success would be of the greatest value. very far from suggesting that there should be any relax in our efforts to secure early diagnosis, but I am incline think that until we can attain at least fairly good resul the moderately advanced cases—that is to say, the ave cases—it will be difficult to get the public to appreciate great advantages of early diagnosis. The general convic of the incurability of cancer is founded on the result operation in the average fairly advanced case, and until conviction is shaken I fear the public will remain relati indifferent and pessimistic as to the advantages of e treatment. Every surgeon of any experience is aware as regards its accessibility to treatment early cancer totally different disease from even moderately advar cancer, but I am very doubtful as to whether we shall be able to enforce this fact by direct statement so lon the treatment of advanced cases furnishes the public so many terrible object lessons in the apparent intractab of the disease.

Varieties of Malignant Disease met with in th Mouth and Pharynx.

In inquiring into the difficulties of eradicating maligr disease of the mouth and pharynx, the first step is analyse as far as possible the varieties in which disease occurs. The clinical and pathological study of part of the subject does not seem to have been follo out as fully as it might have been, and I believe it is generally appreciated how regularly the disease tends follow certain types and to infest certain regions, how much information for the guidance of treatment prognosis can be got from a familiarity with these cha teristics.

ANATOMICAL VARIETIES.

The Mouth.

The distribution of malignant disease within the mouth so familiar that no detailed description is necessary. I cardinal types are recognisable:—

(*a*) Growths of the oral part of the tongue—that is, of part of the tongue which lies in front of the circumval papillæ and is clothed on its dorsum and margins v papillary mucous membrane. Usually the tumour begin the lateral margin, frequently on the dorsum, and someti on the under surface.

(*b*) Growths of the floor of the mouth. These begin ei on the sublingual fold between the tongue and the m teeth or on the frænum of the tongue. A distinct differe in the malignancy of the two forms is frequently to observed.

(*c*) Growths of the gum starting in the mucous membr around the teeth. This form may cause difficulties diagnosis. The bone is involved early. In the lower jav may merely be exposed by the growth; in the upper jaw bone being much less dense is apt to undergo ra destruction, with perforation of the antrum. Very often these cases the direct evidence of the presence of malign disease is slight and ambiguous.

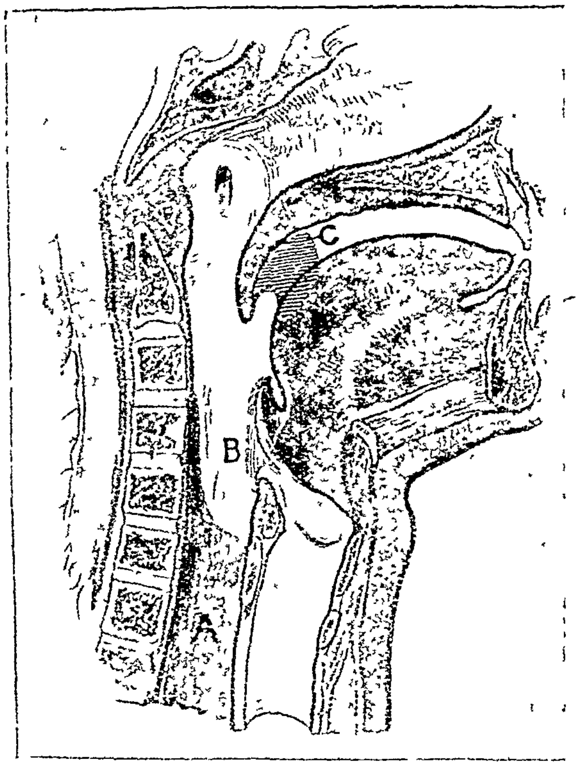
(*d*) Growths of the cheek are the least common. Th usually start somewhat outside the angle of the mouth closure of the jaws and the suppuration in the cheek n cause the diagnosis of an inflammatory lesion to be made

The Pharynx.

It is in regard to this group that the recognition of different anatomical types is most important Ea diagnosis and satisfactory treatment may depend entir upon the identification of the exact form of the disease, a it frequently happens that such identification is by no mea easy unless it is founded on considerable experience. T growths of the pharynx seem to have been but litt described and classified from the point of view of the starting-points. Post-mortem evidence is, of cours valueless, since death does not usually occur until th growth has spread widely. Clinical evidence obtained by examination by the laryngoscope or by the direct meth has frequently proved in my experience to be most m leading. The only means which can give exact informati of these tumours in their early stag is the direct observation of these tumours in their early stag at operations undertaken for their removal. No ve valuable statements can be made, therefore, until our experience derived from this source is much larger. I shall, therefore, give merely a provisional classification based on my own operative experience. I may add, with regard to methods of examination, that I attach far more importance to palpation with the finger than to any other method. As far down as the upper opening of the larynx it is a source of information superior to any other. External examination of the neck, as we shall see later, is sometimes of great value in the diagnosis of the primary tumour, and occasionally is all that is necessary. Finally, I would remind you of the fact, familiar to all, that almost invariably at operation the growth is found to be more extensive than was expected, and sometimes very much more extensive.

Tumours of the pharynx lend themselves readily to classification into fairly definite groups. The various groups which can be distinguished are of great practical importance, since for each of them a standard operation can be devised which gives adequate means of dealing with any operable tumour of the given group. The differentiation is not, however, merely anatomical, but corresponds also fairly accurately with certain peculiarities of age and sex incidence.

FIG. 1.



Diagrammatic section of pharynx to show situation of three of the principal regions in which tumours mainly occur. A, Hypopharyngeal group. B, Epilaryngeal group. C, Oropharyngeal group.

Seeing that adequate exposure of a given tumour is an essential preliminary to satisfactory removal of it, it is obviously of great importance for the surgeon to recognise the class to which the tumour belongs and thus to be able to choose the proper method of attacking it, for an unsuitable method of approach may render impossible the satisfactory completion of the highly complex operation which is often desirable.

The anatomical classification which I have found most convenient is as follows: (1) nasopharyngeal tumours; (2) oropharyngeal tumours; (3) epilaryngeal tumours; (4) tumours of the sinus pyriformis; and (5) hypopharyngeal tumours. (Fig. 1.) Each of these groups must be dealt with by a special operation, whereby any member of the group can be exposed and if operable removed.

1. *Tumours of the nasopharynx.*—This group is peculiar in two important particulars: first, in that the squamous epithelioma is almost entirely absent from it; and secondly, because symptoms are often very inconspicuous in the early stages, so that it is almost impossible for a diagnosis to be made at a period when successful treatment is possible. In my experience almost all true malignant tumours here are endotheliomata of a peculiar and characteristic type. A sarcoma is occasionally found. All these occur on the roof and lateral wall, especially the latter.

The symptoms may be divided into three groups.

(*a*) *Pharyngeal.* Hæmorrhage, obstruction of the nose. Both these are much less common than is sometimes thought, and this is perhaps a reason why a diagnosis is often not made.

(*b*) *Symptoms due to direct extension of growth.* Into the lateral wall, causing unilateral fixation of soft palate, deafness from pressure on Eustachian tube, trigeminal neuralgia through involvement of inferior maxillary nerve and sometimes superior maxillary nerve, closure of jaws through extension to internal pterygoid muscle. Into the skull through the basal foramina, causing symptoms of cerebral tumour. This latter mode of extension is relatively late; the former relatively early.

(*c*) *Enlargement of glands.* This occurs early, and on account of the relative absence of nasopharyngeal symptoms is apt to cause difficulty. The glands are characteristic clinically. They are firm but accompanied by much periadenitis, so that they are frequently mistaken for glands of inflammatory origin. One of my patients had been treated with tuberculin for six months before I saw him. As a matter of fact, the condition clinically does closely resemble the fibrotic variety of tuberculous glands and to some extent gummatous glands.

The endothelioma of the pharynx is a remarkable and interesting tumour, presenting many very characteristic features which have not, however, received much attention on account probably of cases not having been operated on very frequently. I shall not be able to deal with these tumours fully here, but may mention their especial frequency in the young adult and adult male, the liability to show inflammatory signs and to suffer inflammatory complications such as recurrent suppuration, and their extreme intractability to operative treatment in any but the very earliest stages. The area in which they occur does not exactly correspond with the anatomical classification I have given, as in addition to the lateral wall of the nasopharynx and to some extent the roof, they originate in the tonsil not very uncommonly. It is perhaps worthy of note that the tract of tissue about the inner ends of the two first visceral clefts is that to which this very special class of tumour is practically limited.

I have known of cases in which such a tumour has been found in a tonsil which has been removed by enucleation and in which no recurrence has occurred. The more fully developed cases with which alone I have had to deal have proved quite inveterate. The disease can be checked for a time but not cured. In all these cases, however, the diagnosis might have been made very much earlier had the special features of the disease been more generally known. In regard, therefore, to endothelioma of the nasopharynx and tonsil (pharyngeal endothelioma) we are at present entirely dependent upon very early diagnosis, and until that is generally mastered the surgeon will remain unable to give any good hope of cure.

2. *Tumours of the oropharyngeal region.*—The term oropharyngeal is conveniently used to indicate a group of tumours which all begin within a comparatively small area and can all be exposed for removal by a single standard operation. The region centres about the tonsil and includes the anterior faucial pillar and the pharyngeal part of the tongue—that is, the part behind the circumvallate papillæ. Some further reference to the various growths occurring here is desirable.

(*a*) True tonsillar tumours Of these epithelioma is the most common, but I have also met with endothelioma and mixed-cell sarcoma Lymphosarcoma I have never seen at a stage in which the tumour offered the least prospect of curability by operation. Epithelioma, the most important tumour, tends to spread into the tongue to some extent, but chiefly downwards along the groove between the tongue and lateral pharyngeal wall into the pyriform sinus. This marked tendency to longitudinal spread renders free longitudinal exposure an essential necessity in the operative technique.

(*b*) Faucial pillar growths. These are always epitheliomata and are not at all rare. They begin on the front of the anterior pillar and soon involve the tongue and tonsil, tending to spread in exactly the same way as true tonsillar growths.

(c) Lingual growths. Two forms of epithelioma beginning in the tongue are included in the group. First, the common type which begins just at the lingual attachment of the pillar in the neighbourhood of the remains of the foliate papilla. The importance of this interesting vestige was first shown by Butlin. He called attention to the frequency with which it becomes irritated by the last molar tooth and gives rise to the erroneous diagnosis of epithelioma. It must be remembered also—and this increases the difficulty of diagnosis—that this very spot is, in fact, a common starting point for epithelioma.

The second form of lingual carcinoma which comes into this group is that most formidable variety which begins in the part behind the circumvallate papillæ, generally near the middle line. It owes its seriousness to the remarkable tendency it has to grow into the substance of the tongue without in the early stages ulceration or projection at the surface. Thus it happens that the disease runs for a considerable time a practically symptomless course. Some discomfort in swallowing, some slight limitation in protrusion of the tongue, and some slight induration of its substance in the hindmost part are for long the only signs. The most difficult and dangerous of all the operations on the tongue is necessary for the removal of the tumour, and the results in my experience are correspondingly bad. Possibly good results might be got if the clinical picture of the disease were more widely known and operation fairly early in the case rendered possible. It must always, however, remain one of the graver forms, since the absence or ambiguity of the early symptoms is such as often not even to arouse the patient's attention.

3. *Tumours of the epilaryngeal region.*—The remaining types we have to deal with are all epitheliomata, and this fact simplifies to some extent the full discussion of them which is necessary.

The term "extrinsic cancer of the larynx" is one which has long been current as a name for tumours involving the pharynx in the neighbourhood of the larynx. It served a useful purpose in marking a distinction from the true intralaryngeal tumours or "intrinsic cancers of the larynx," but it helped to encourage the belief that "extrinsic" tumours, being essentially laryngeal, could be dealt with only by extirpating the larynx. Without prejudice to the question of the necessity or otherwise for laryngectomy, it would be more in accordance with fact to describe all such tumours as essentially pharyngeal in origin, and to reserve the term laryngeal cancer for the growths beginning in and about the vocal cord—that is, the "intrinsic" cancers.

Of such pharyngeal tumours as arise in the neighbourhood of the larynx, those which begin in or near the margin of the upper opening form a group so distinct in their characters and so uniformly accessible by a single operation, that I venture to distinguish them under a special name as the epilaryngeal tumours of the pharynx. These growths may originate upon the aryteno-epiglottic fold or upon the epiglottis itself. The latter situation is, in my experience, decidedly the commoner. Neither form has any great tendency to invade the essential parts of the larynx. Perhaps, however, it would be better to say that at the time of operation it is usually found that a considerable margin of healthy tissue is present between the growth and the vocal cords; sometimes, indeed, the whole circumference of the upper opening is affected before the vocal cords are reached. The relative freedom of the body of the larynx in these cases is probably due less to any essential benignity of the growth than to the earliness of the period at which it produces symptoms. There is, perhaps, no single feature which affects the treatment of malignant disease of the mouth or pharynx more favourably than the growth being in a situation which leads to early and severe symptoms.

The symptoms of the epilaryngeal group are an alteration in the quality of the voice, giving it a peculiar "throaty" character, hoarseness, difficulty in swallowing, and difficulty in breathing.

The general behaviour of these growths as regards treatment is favourable. They can be dealt with at least frequently without laryngectomy, and permanent cure can undoubtedly be obtained in moderately early cases. As far as my small experience goes I should regard this group as the most hopeful of all malignant pharyngeal tumours, and I have no doubt that the treatment of them can be firmly established as a standard measure with results satisfactory as to safety, as to the absence of serious mutilation, and as to the attainment of cure.

4. *Growths of the pyriform sinus.*—In the immediate neighbourhood of the larynx there occurs, however, another growth which presents a remarkable contrast with the epilaryngeal group as to symptoms, mode of extension, and curability. This is the tumour starting in the pyriform sinus, a tumour the frequency and importance of which have, I think, been greatly under-estimated.

I must remind you that the pyriform sinus is the deep recess which lies under cover of the ala of the thyroid cartilage between this and the upper opening of the larynx. Its external wall is the ala, its inner wall from below up the cricoid cartilage, the lateral part of the cricothyroid membrane and the structures of the aryteno-epiglottic fold. It is lined by a lax mucous membrane forming a diverticulum of the pharynx large enough in the adult male to admit the last joint of the thumb. Its cavity is quite inaccessible to laryngoscopic examination, which reveals only its mouth and would leave quite unsuspected the considerable recess that lies in front of this. It is usually just accessible to digital exploration, and can also be examined with the bronchoscope.

Growths originating here frequently run an absolutely latent course until they are far advanced. Often the first serious symptom is the appearance of a mass of glands in the neck, which on account of the absence of pharyngeal troubles the patient may ignore until they are quite inoperable. In the frequent cases of obviously malignant glands in the neck without ostensible primary tumour the sinus pyriformis should always be most carefully examined.

FIG. 2.

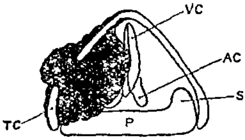


Diagram of section of larynx to show distribution of epithelioma of sinus pyriformis. VC, Vocal cord. AC, Arytenoid cartilage. SP, Sinus pyriformis. P, Pharynx. TC, Thyroid cartilage. The growth is in a moderately advanced condition and at about the stage when surgical advice is

black.

These tumours spread in an extremely characteristic way. Starting in close contact with the thyroid cartilage they early involve the perichondrium of this and extend diffusely beneath it, leading to a subperichondral growth of epithelioma, which spreads insidiously until it may have affected widely the ala of the opposite side. Meanwhile the cartilage itself is attacked and comparatively soon perforated near the spot where the growth starts. A swelling then forms on the outer aspect of the ala, and tends also to be surrounded by a diffuse subperichondral thickening. Such a swelling is sometimes mistaken for a gland, but can usually be distinguished from such if the surgeon is familiar with these cases. Internally the growth tends to invade the lateral wall of the larynx, where it causes an œdema visible in the laryngoscope and later on fixation of the cord. It is quite rare for the growth to break through into the larynx and ulcerate there, but it tends to spread round the cricoid in close relation to the perichondrium. (Fig. 2.)

and the lateral wall of the larynx below it; (2) a persistent pool of muco-pus between the arytenoid cartilage and the lateral wall of the pharynx, while the opposite side is quite free; (3) some thickening on the outer aspect of the ala of the thyroid and firmly fixed to it. No ulceration is visible by laryngoscopic examination.

Later the tumour emerges from the recesses of the sinus and begins to attack the lumen of the pharynx. Here it tends to spread circularly and downwards towards the œsophagus. The extension round the pharynx, added to that round the larynx, gives the growth a figure-of-eight shape, and makes it the most formidable of all the pharyngeal epitheliomata.

The difficulty of diagnosis in anything like an early stage is scarcely credible. I have never seen a case in which at the time of operation the thyroid cartilage itself was not extensively invaded and perforated. In my experience, therefore, a total laryngectomy has always been obligatory. Fortunately, however, I believe this is the only tumour of the pharynx for which that terrible operation is invariably necessary, but it would seem that it must remain such unless our methods of diagnosis can be greatly improved, or until the desirability of exploratory operations on the pharynx in the presence of certain symptoms is generally accepted and enforced.

The chief cause of difficulty in the diagnosis is the laryngoscopic picture. This shows a smooth rounded swelling of the lateral wall of the larynx above the vocal cord, and usually no ulceration at all. These appearances lead to the diagnosis of an inflammatory lesion, usually gumma. The signs by which a correct opinion can be formed are the pool of muco-pus which fills the mouth of the sinus and betrays the presence of ulceration within, and the evidences of invasion of the ala of the thyroid. Sometimes a correct diagnosis can be made by external palpation of the larynx alone.

5. *Tumours of the hypopharyngeal region.*—A very well-marked group of tumours affects the lowermost parts of the pharynx below the opening of the larynx, and is thus conveniently described as hypopharyngeal. Certain tumours which occur somewhat beyond the limits of the hypopharynx of descriptive anatomy are so obviously similar that it is desirable to include them in the same group, which thus comes to comprise growths beginning in any part of the circumference of the pharynx below the upper opening of the larynx and on the posterior wall of the pharynx as high as the level of the epiglottis. Such tumours, occurring as they do for the most part on the narrowest part of the pharynx, usually produce difficulties in swallowing comparatively soon. Diagnosis, therefore, is possible at a fairly early stage. The late period at which most of my cases have been submitted to operation has been due chiefly to the supposed inoperability of these tumours rather than to diagnostic difficulties. It is sometimes, however, difficult to distinguish clinically between a hypopharyngeal tumour and one of the pyriform sinus. This difficulty is serious when it occurs, for the type of operation undertaken in the two cases would be widely different. Some of these tumours have a tendency to invade the œsophagus diffusely, thus becoming wholly inoperable. When the œsophagoscope tube cannot be passed beyond the growth it may be impossible to detect this extension and an operation necessarily fruitless be undertaken.

Age and Sex Distribution of the Different Groups.

The facts as to the age and sex incidence of carcinoma of the mouth are well known, and I shall, therefore, not trouble you with the addition of my own small experience. I may, however, make the general statements that the disease is probably about ten times as common in men as in women, that in women it occurs at about the same age as it does in men, and that while women are subject to the forms which begin on the tongue and on the gum they seem to be very free from the form which begins on the floor of the mouth.

Growths of the pharynx present some remarkable peculiarities of age and sex incidence which need more detailed description. The *nasopharyngeal endothelioma* in the 10 cases I have had an opportunity of operating on has been a disease of the adult male, usually the young adult. I have seen a case in a young woman, but this is decidedly rare.

In the *oropharyngeal group* there were 9 cases of epithelioma of the tonsil or immediately adjacent parts. All the patients were males between 40 and 60. In addition, there was one mixed-cell sarcoma in an elderly woman and one endothelioma in a young man. In the *epilaryngeal* group there were 10 cases, all epithelioma and all in males between 40 and 60.

The growths of the *sinus pyriformis* have rarely proved suitable for operation, so that the number in which the diagnosis was exactly determinable by inspection was extremely small. Nevertheless, the clinical picture is so characteristic that one's experience of inoperable cases may, perhaps be taken into account. If this be done there can be no doubt that the disease chiefly attacks males between 40 and 60. I have met with one remarkable exception in the case of a typical epithelioma of the sinus pyriformis in a young woman aged 27. The diagnosis was confirmed in this case at operation.

Of the *hypopharyngeal group*, in 5 cases the diagnosis was confirmed at operation and all were in women, most of whom were between 40 and 50. Taking into account numerous other inoperable cases in which the diagnosis was practically certain, I should be inclined to say the lower age limit is too high, and that cases are met with as young as 30 or even under.

To sum up the age and sex incidence of pharyngeal malignant disease, one may say broadly that if a line be drawn across the pharynx from the posterior wall at the level of the tip of the epiglottis to the anterior wall at the interarytenoid notch, all epitheliomata above the line will be in middle-aged and elderly men, while all below the line will be in young and middle-aged women. (FIG. 1, A.)

PATHOLOGICAL TYPES AND AMENABILITY TO OPERATION.

I have already dealt with the peculiarities of the endotheliomata. My experience of sarcomata is not such as to justify any general conclusions; we have, therefore, now to consider the epitheliomata only.

In the first place, I should like to state with emphasis my conviction that at the present time the only treatment of squamous epithelioma which gives any hope of cure is adequate removal by a carefully planned operation. If the sinister reputation of the disease is to be modified at all it can only be through the study of its earlier clinical and pathological manifestations and by ceaseless attempts to improve the design and technique of operations.

Course of the Primary Growth.

It is a commonplace to all surgeons of experience, though apparently unknown to the general public, that cancer in its early stages and cancer in its later stages behave in relation to treatment as if they were two entirely different diseases. It is equally well known that in moderately advanced and even in "early" cases it is often impossible to say whether a given tumour is likely to be curable or not. Cases of an unpromising appearance sometimes surprise us by their satisfactory results, and more often, unfortunately, cases of the most hopeful aspect prove to be of the most inveterate malignancy. We are not, however, entirely without means of forming some estimate as to the curability or otherwise of a given case. A squamous epithelioma is typically a surface growth. If the evolution of the disease be studied throughout its course it will be found that the primary tumour remains for a considerable time essentially a superficial condition; a large proportion of its bulk actually projects beyond the surface of the normal surrounding parts, while the deep aspect of the growth, although, of course, attached to the underlying tissues, can be felt to be marked off from them by an abrupt change of consistence—that is to say, in ordinary clinical terms the outline of the tumour is extremely well defined. After a variable period of growth a change in the physical signs of the tumour is established, and often somewhat abruptly. The deep extension of the growth seems to pass a critical point and then suddenly to increase. The projecting part of the mass no longer forms a large proportion of its bulk and the deep outline has become obscure. We no longer have to deal with the button-like mass inlaid, as it were, in the surface of the tongue, but with a tumour invading the substance. This change in type of growth usually occurs within a few months of the beginning of the disease, but it is sometimes delayed until a late period, and one then sees a large cauliflower growth, which in spite of its formidable appearance is by no means necessarily unsuitable for operation. Now, clinical experience shows that with this change in the mode of spread—often inconspicuous in the clinical features accompanying it—there is a very great increase in the difficulty of obtaining cure by operation. This observation is in accord with the admirable histological work of

Cheatle upon the spread of cancer of the tongue He has shown that when *once the muscular substance* begins to be *freely invaded there is a* very rapid and diffuse infection of the tongue muscles It is in the quiet period before deep extension begins that epitheliomata can be removed with a practical certainty of cure It is probable, however, that some few growths are of the diffuse type from the very early stages Prognosis, therefore, should be based rather on physical signs than on duration

Gland Involvement and its Varieties

If local inveteracy were the principal difficulty in the cure of cancer, it is obvious that, once the distinction between the two grades of the disease was recognised, the results of cancer of the tongue at any rate would be much better than they actually are As is well known, however, the difficulty lies in the involvement of the lymphatic glands, and there can be no doubt that at the persent time a large number of patients are cured of the primary focus of the disease only to die miserably from gland infection We owe chiefly to Butlin the firml [illegible] primary disease [illegible] has begun, witl [illegible] operation should be as much a part of the treatment as the removal of the primary growth So essential is this principle, and so invariable should be this rule, that I would go so far as to say that it has actually been a hindrance to progress that certain cases do not develop a gland *infection although treatment has been limited to removal of the* primary growth All of us, no doubt, have had patients who have refused to submit to the gland operation, and some few of whom have remained free from recurrence The surgeon is, unfortunately, apt to be unduly impressed by such cases, and to be shaken in his belief in the invariable necessity of the gland dissection, which is at all times a difficult, tedious, and, from the patient's point of view, thankless procedure It is now, however, quite definitely proved that any extensive experience will contain cases in which a gland dissection has revealed distinct foci of cancer, although the primary growth was small and superficial and no glandular enlargement could be recognised clinically The only case in which I have felt justified in relaxing the rule as to the gland operation was in that of a patient aged 91 Here the treatment was definitely regarded as palliative only, and the fact that the patient survived the removal of the primary growth without the least trouble and lived *for several years* entirely free from recurrence is to be regarded as a fortunate accident

The general rule for treatment should, therefore, be based on the knowledge that the primary growth and the possibility of gland infection appear practically together A useful exten*sion of the rule* is the statement that the liability to gland infection bears no relation to the stage of the primary disease—that is to say, that for practical purposes there is no less liability to gland infection before the *period of submucous invasion than there is* after

It is frequently assumed that when the glands are found clinically to be involved to any considerable extent the case is necessarily a hopeless one My experience has not led me to share *this view, and I think that a number of cases* are lost through the undue pessimism of the surgeon discouraging him from submitting such patients to a thorough gland dissection That there are, however, cases of even moderate gland invasion which defy all treatment there can be no *doubt Fortunately,* we are not *quite without clinical* knowledge enabling us to some extent to discriminate between the two types As long as the glands remain hard and well defined, even although they are quite numerous, the possibility of cure is still fair provided a really thorough *dissection is done* If, however, the glands, *though possibly* not numerous or very large, are ill defined, and give the impression rather of inflamed than carcinomatous glands, then the chances are strongly against any operation, however large, proving effective A dozen stony hard, sharply defined *glands are less serious than a single one* of which the outline is obscure and the substance rather yielding In my material I find six cases of really extensive gland involvement which have been cured by operation In two of these the enlarged *glands* were on both sides of the neck and extended *down to the clavicle* Both patients have been free from recurrence for over four years

When the gland enlargement has been moderate and *of* the favourable type I have never seen recurrence after a thorough systematic dissection

Factors Influencing the Occurrence of Submucous Invasion

The onset of diffuse extension to the underlying structures is, as we have seen, an event of crucial importance in the history of the primary growth Capricious as it is, certain factors which influence its early or late occurrence can be made out

(*a*) *Duration of the growth All epitheliomata ultimately* tend to become diffuse, some slowly, some more rapidly. When diffuse extension is well marked and the growth has infiltrated and welded together any considerable body of structures outside the one in which it grew, the case is completely inoperable, and removal, although it seems to be anatomically satisfactory, will be followed immediately by recurrence The recognition of this condition is largely a matter of experience, but in general one may say that a loss of definition in the palpable *outline of a large tumour* is the most important sign

(*b*) Situation of the growth The underlying *structures* may favour the extension of a tumour in various ways, so that the situation has a considerable influence upon submucous invasion The situations in which early invasion is particularly prone to occur are the floor of the mouth on the *sublingual fold, the pharyngeal part of the tongue, and the* sinus pyriformis Consequently these three are the most formidable of all epitheliomata of the mouth and pharynx and can only be dealt with by the most extensive operations

(*c*) Idiosyncrasy of the tumour. The *nodular form of* cancer of the tongue, one of the classical modes of onset of the disease, has a strong tendency to invade the muscular substance from the first, while it has little disposition to project from the surface or to ulcerate It is of far more serious nature, other things being equal, than either the papillomatous or ulcerous form Occasionally tumours of the epiglottis show the same peculiarity and penetrate the tongue early and deeply

The combination of this variety of primary growth with the ill defined inflammatory type of gland is unfortunately common and *almost always defies the most resolute* and extensive operation

THE PLANNING OF THE OPERATION TO SECURE FREEDOM FROM RECURRENCE

I THE PRIMARY GROWTH

Three types of growth present themselves for treatment, the superficial form (early cases), the form in which submucous invasion has begun or may *be suspected (moderately* advanced cases), and the form in which advanced submucous invasion has occurred

(*a*) *Early Cases*

Many of the growths on the tongue and in the epilaryngeal [illegible] are of this type Experience [illegible] the tumour with a margin of tissue [illegible] palpation not less than half an [illegible] will give a practical certainty *of freedom from recurrence* If the growth be certainly of the superficial type there will be no need for the excision to be especially free in any particular direction Under special circumstances the margin may even be less than half an inch, but this should be regarded as undesirable It is *extremely important* that the growth should be centrally placed in the part removed—any excess in one direction is an unnecessary mutilation, while any diminution is a risk In order that such an excision may be carried out deliberately and systematically it is absolutely essential that the surgeon *should obtain* free and untroubled *access to the part* The provision of free access is, in fact, very often the most important part of the operation

(*b*) *Moderately Advanced Cases*

[illegible] *The half inch* [illegible] which it is very [illegible] inch should be looked upon as the desirable limit Moreover, there will usually be certain directions in which the removal should be especially radical For example, in the nodular form of cancer of the tongue or in cases originally superficial which have developed submucous invasion, the muscles of the tongue on the same side must be removed as far as their attachments to the hyoid bone, as has been shown by the histological work of Cheatle. In cases of growths on the sublingual fold the removal posteriorly must be especially free, as it is towards the pharynx that such tumours tend to spread particularly. Growths of the tonsillar region must be removed with a very free inferior margin for similar reasons.

(c) *Advanced Cases.*

Most of them are obviously inoperable. The disease seems to have reached an altogether uncontrollable condition in which it invades the whole region in microscopic outposts. In these circumstances an operation may appear to be anatomically successful in removing the growth with a good margin, but immediate recurrence is the rule and the convalescence, which is distressing enough, merges into the re-established disease. The performance of such operations is a mere virtuosity of surgical technique which exalts the manifestation of skill above its purpose. Nevertheless, there are a few of these desperate cases in which the surgeon of experience will feel compelled to recommend interference.

One can never be absolutely certain that uncontrollably diffuse invasion has occurred, and the submitting of a patient to an unsuccessful operation, distressing as it is, is not so terrible a mistake as allowing to die of cancer unrelieved a patient who might have been cured. In my opinion these very large operations are never justifiable as palliative procedures, and should never be advised unless a distinct hope of permanent cure can be entertained. The actual danger of the operation is, with modern technique, not usually great enough to be an important factor in the decision.

The Anatomical and Pathological Factors in the Planning of Operations.

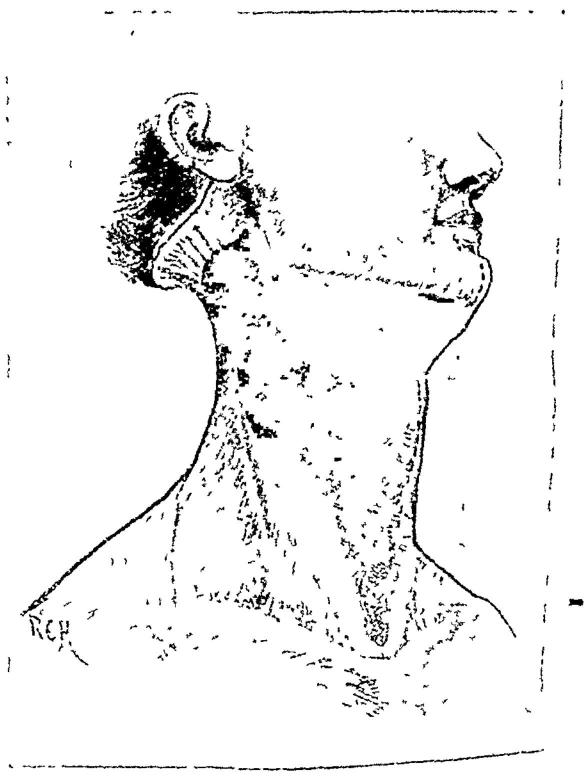
It will be noticed that I have spoken of operations so far strictly in terms of removal of the growth and without any reference to the removal of organs or structures containing the growth. This seems to me an essential principle of the treatment of malignant disease. Most of the operations of surgery were originally designed as anatomical procedures. This was inevitable in view of the difficulties under which the surgeon of those days worked. In the absence of anæsthesia and knowledge of the causes of wound infection it was triumph enough if the surgeon succeeded in removing the tongue, the jaw, the larynx, or so forth, and the possibilities of success were so narrow that any modification of the anatomical procedure to suit the particular disease or an actual example of it was scarcely to be considered. At such a stage of development operative surgery could be perfectly well mastered in the deadhouse. The surgeon there learnt to remove various parts of the body with adequate dexterity, and actual practice was largely a repetition of these chiefly anatomical exercises. The surgeon might amputate a limb, remove the tongue, or excise a joint most acceptably, guided entirely by his experience of operations on the corpse. Frequently, no doubt, the disease was satisfactorily dealt with, but it would be too much to expect that pathological processes should limit themselves to parts of the body which were easy to remove, and in consequence there was always a tendency on the one hand to sacrifice unnecessarily structures which, though not diseased, came within the limits of the operation, and, on the other hand, to spare diseased structures because they lay outside the anatomical region the operation was designed to remove.

To-day the whole basis of operative surgery has changed and the nature of an operation is determined by pathological considerations, anatomical requirements having been reduced by the increase in the resources of the surgeon to a secondary though still important place. There are, however, some vestiges of the influence of the anatomical period still remaining, and it is most important that these should be recognised. We are still apt to go on "excising the upper jaw for malignant disease," undeterred by the fact that in quite a number of cases after the operation has been carried out, in the venerable phrase, "secundum artem," the bulk of the disease, or possibly all of it, has been left behind. The same criticism applies to some extent to excision of the tongue and to laryngectomy for cancer. The gradual replacement of anatomical by pathological indications is going on rapidly, but there is perhaps less conscious recognition of the fundamental change of principle than there might be.

There are very few cases of an anatomical and pathological distribution of disease so exactly corresponding that a precisely designed anatomical operation removes the morbid condition and nothing else. Appendicitis and cholecystitis are instances that readily occur to one, but apart from these and a few such fortunate coincidences surgeons are having more and more to follow pathological requirements in their operations, and to overstep the anatomical boundaries which an older surgery was forced to remain within.

Nowhere is the tendency more marked than in the surgery of the mouth and pharynx, where the pathological requirements of the case must be supreme, so that the attainment of cure and the limiting of mutilation may be subserved at the same time. The formal purely anatomical operation retains, however, a function in providing means of access to the tumour. This function is so important that it should be recognised as a distinct part of the operation.

FIG. 3.



To show extent of gland dissection in early cases. The shaded area is that from which all connective tissue, fat, and glands must be removed.

Since epitheliomata are essentially growths of the mucous membrane the provision of access renders necessary the free exposure of the mucous surface from which the tumour arises. Moreover, access must be allowed which provides for the free removal of the tumour, especially in the direction in which it particularly tends to spread.

We are now in a position to summarise shortly the essentials of an operation which shall give a maximal probability of cure: (1) Free exposure as a formal stage of the operation; (2) exposure of the growth on its mucous aspect; (3) exposure must be capable of indefinite extension along the line of spread of the tumour; (4) removal of the tumour as a definite stage of the operation; and (5) removal to be regulated entirely by the pathological necessities of the case, a precise margin of healthy tissue being included on every aspect, the extent of the margin and its increase in any special direction being determined by the nature of the growth. It will be seen that these requirements are left unsatisfied by many operations for cancer of the tongue carried out through the floor of the mouth, by operations for removal of tonsillar tumours through the same side of the neck, and by many laryngectomies.

II THE GLAND OPERATION

Two types of gland operation are necessary according to whether the glands are much involved or not

(a) Gland Involvement Clinically Slight or Absent

The dissection of the anterior triangle originally designed by Butlin and practised so successfully by him needs extension in two ways to render it an ideal procedure in preventing recurrence First a sufficient number of cases of very early bilateral gland involvement is met with to render the dissection of both sides necessary as an extreme precaution In these early cases it can be carried out without extra risk

Secondly, the operation should aim at removing the deep cervical chain he skull as it is in thi likely to occur This the horizontal extent of the dissection, which must be carried backwards under the sternomastoid to the posterior margin of the muscle Completed in this way, the dissection will be found to comprise about four fifths of the circumference of the neck, from which all lymphoid tissue has been removed In these early cases the horizontal extension of the operation is undoubtedly more important than the vertical, which need not go below the thyroid cartilage (Fig 3)

This posterior extension I regard as absolutely essential, though it makes the operation much more difficult The spinal accessory nerve must first be found and isolated and raised up with the sternomastoid The dense pad of fibrous and fatty tissue between the sternomastoid superficially and the splenius and levator anguli deeply is cut through at the posterior edge of the sternomastoid until the muscles are exposed and then it is turned forwards I have never seen recurrence after this operation when it has been done in suitable cases

(b) Gland Involvement Extensive

In this type of case the bilateral operation cannot usually be done with safety at one sitting Sometimes, when there was no evidence at all of involvement of the opposite side I have omitted the second dissection with success The enlarged glands generally surround the spinal accessory nerve so that there is no question of preserving it The sternomastoid and the jugular vein are also usually either ands so that they the jugular vein tied and divided just above The muscle and vein are raised together with the contents of the triangles It is usually convenient to tie and divide the external carotid at its origin The submaxillary triangle should always be cleared The jugular vein is divided just above the digastric and the sternomastoid at its insertion The operation is much easier than the ordinary bilateral dissection in early cases and takes much less time Moreover the convalescence is shorter as on account of the absence of the sternomastoid there is no cavity for serum to accumulate in The operation looks and sounds much more serious than it is and is usually surprisingly successful in eradicating the disease unless the glands are of the diffuse inflammatory type In addition to it, the dissection of the supraclavicular triangle is sometimes desirable and is not serious

Occasionally in the first six months or so following upon a thorough gland operation a peculiar chronic enlargement of the glands bordering upon the area which has been dissected is to be observed These become moderately enlarged and firm and then remain stationary showing no further progressive change and no fixation They do not lose the ovoid form and do not attain a long diameter greater than about three quarters of an inch The appearance is one decidedly alarming to the inexperienced and is almost inevitably mistaken for a manifestation of recurrence In fact it is scarcely possible for the surgeon not to advise a further operation Such operations I have repeatedly carried out but microscopical examination of the glands removed has invariably failed to show any evidence of malignant disease These experiences lead one to suppose that this kind of enlargement is in compensation as it were for t tissue which has been removed necessary in deciding that in a given case the surgeon has to deal merely with this harmless condition The moderate size of the affected glands and the absence of progressive enlargement are the most important features to be noticed These remarks apply only to cases in which the primary growth was an epithelioma In cases of endothelioma I have never seen gland enlargement which did not prove to be a recurrence

The Limits of Operability in Gland Involvement

In a general way one may say that more mistakes are made in the direction of pronouncing tumours inoperable than in attempting operations which cannot be completed The reason for this is that in advanced gland cases the principal mass is usually under the upper end of the sternomastoid and fixed to it near its insertion This gives the erroneous impression that the growth is fixed to the spine Glands beneath the muscle are also likely to appear ill defined and diffuse when they are in fact not so

When glands not under the muscle are indefinite and accompanied by brawniness of the skin and œdema it is generally quite useless to operate

It is very remarkable how the common and internal carotids and the vagus escape involvement in gland masses until very late Such masses tend to spread backwards and involve the muscles on the floor of the posterior triangle long before they attack the common carotid When the common carotid and vagus are involved it is doubtful whether the operation should be carried out and much would depend on the kind of primary growth and the condition of the patient Removal of these two structures is a serious addition to the danger of disease th operability uselessness of the operation

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THE MORBID ANATOMY OF PERIODONTAL DISEASE[1]

By J F COLYER, L R C P LOND M R C S ENG , L D S ,
DENTAL SURGEON TO CHARING CROSS HOSPITAL DENTAL SURGEON
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THE odontological collection in the Museum of the Royal College of Surgeons of England contains an excellent probably unique, series of specimens illustrating the morbid anatomy of periodontal disease The specimens include examples of the disease in man as well as in the lower animals the value of the collection being enhanced by the fact that all stages of the disease are illustrated The object of this paper is briefly to discuss the more instructive specimens in the collection

1 PERIODONTAL DISEASE AS SEEN IN MAN

Before dealing with the abnormal it will be advantageous to consider the normal In Fig 1 is shown the mandible of a female 22 years of age with an alveolar process which may be regarded as normal The margin of the bone approaches on the buccal aspect to just below the necks of the teeth and is continued across from one tooth to another in a straight line so that a definite triangular space exists between the approximal aspects of the teeth In the incisor region the bone does not follow such a straight line from tooth to tooth but is continued upwards so that the space between the teeth is considerably less than that between the premolars and molars The margin of the bone presents a smooth outline and the surface of the bone is likewise smooth being pierced here and there with nutrient canals The appearance of the bone in skiagrams is shown in Fig 2 Between the front teeth the bone appears to end in a sharp spine while between the back teeth it passes as stated above in a straight line The outer aspect of the bone shows a dense layer the inner portion presenting a cancellous appearance In the maxilla a similar condition obtains

Clinical experience shows that the disease usually commences either in the molar region or around the incisors When the disease commences around the back teeth the initial lesion is a slight destruction of the bone in the centre of the interproximal spaces This early stage is shown in

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[1] An abstract of a museum demonstration given at the Royal College of Surgeons of England on Nov 6th 1912

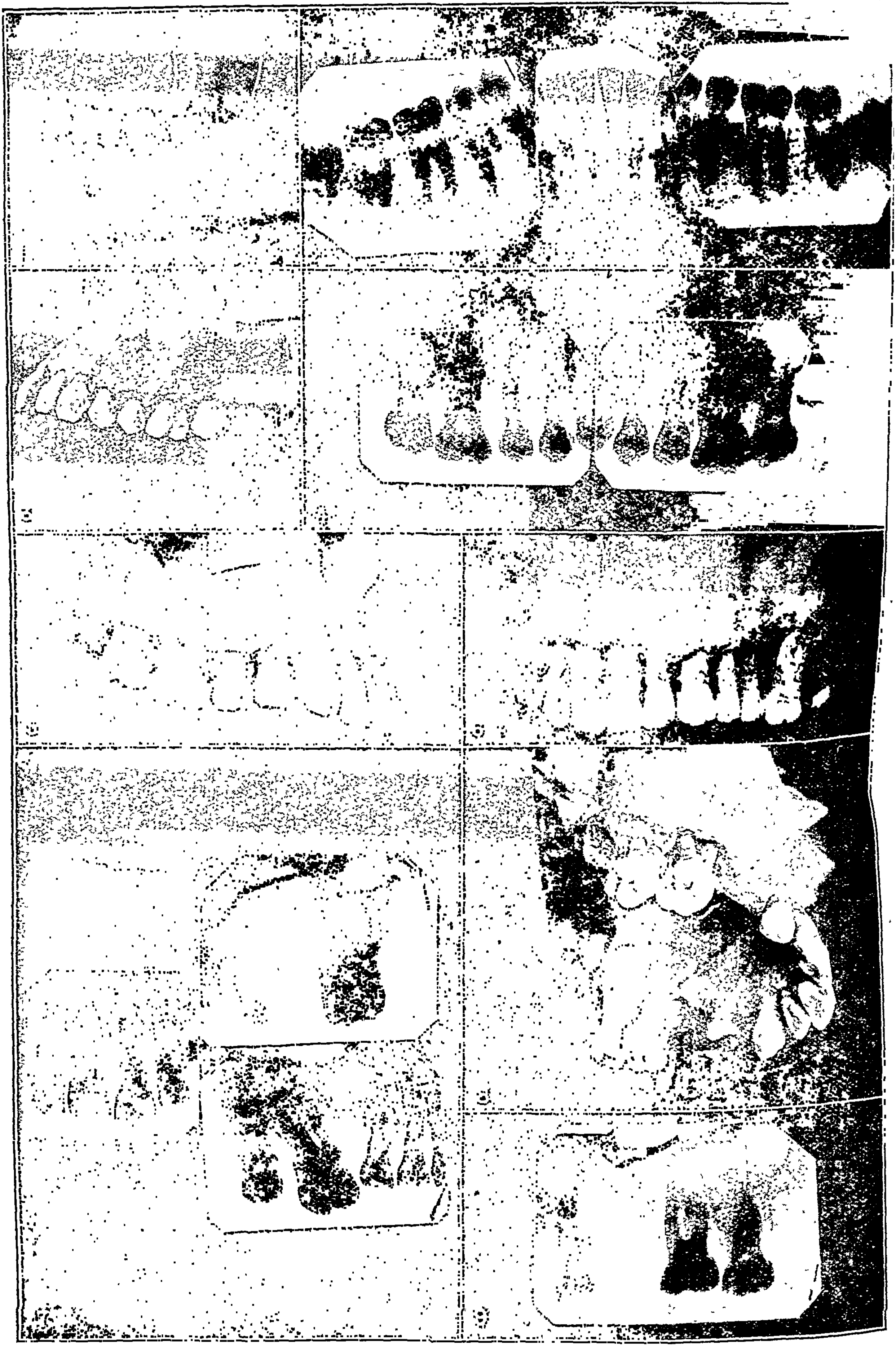

Fig. 3, a specimen which, casually observed, appears to be normal. Fig. 4 shows that destruction of the bone has lready commenced, as evidenced by the disappearance of the layer of dense tissue and the breach into the cancellous bone.

As the destruction of the bone advances the outer and inner plates of the alveolar process become involved, but the loss of tissue a[illegible] teeth than on the buccal and [illegible] in Fig. 5. [illegible] on of bone [illegible] pared with that around the [illegible] 2) the greater loss of tissue [illegible] that around the premolars.

The specimen shown in Fig. 6, from a male aged 30 years, shows in an excellent way the morbid anatomy of an advanced case. The bone around the incisors has almost disappeared, and the molar teeth are uncovered to near their apices. Cup-like spaces around the teeth are evident, this appearance being due to the fact that the bone bordering the tooth disappears first. The appearance of the bone shows that there has been a marked rarefying osteitis. Nodular deposits of calculus are present on the teeth, and it will be observed that these are in the case of the incisors, canines, and premolars well away from the margin of the bone. The skiagram of this specimen is shown in Fig. 7. The cup-shaped absorption of the socket is well seen in the right first molar of the specimen illustrated in Fig. 8. Around the second molar the destruction of the bone has been of a more chronic type, the cup-shaped absorption being absent. The skiagram of these teeth (Fig. 9) shows a very distinct difference. Around the roots of the first molar there is a definite clear area and an absence of the dense layer which marks the outline of the normal socket. The bone around the tooth shows definite signs of rarefying osteitis. The bone bordering the roots of the second molar still retains the dense appearance, and indicates that rarefying process has not spread deep into the bone around this tooth.

A point worthy of notice is the difference in spread of the disease in the maxilla compared with that in the mandible, and this is especially marked in the region of the molars. This limitation of area of the bone destruction in the mandible is of interest, and is to be accounted for by the different nature of the osseous tissues in these two bones. In the maxilla the bone is of a much more cancellous character than that in the mandible. This difference in the spread of the disease in bones of different density is, as we shall subsequently see, well brought out in considering the disease in the lower animals.

In the final stage of the disease the teeth fall out owing to extreme loss of the surrounding bone. The series of specimens just described indicates that the bone lesion is a progressive rarefying osteitis which commences at the margin of the tooth socket and eventually destroys the bone until the tooth is shed owing to the loss of its attachments.

Clinical experience shows that the disease varies in its rapidity, and that in some individuals there is a definite reaction of the periosteum of the bone to the injury from the toxins. This is shown by a general thickening of the alveolar bone and, in a few cases, by the formation of nodulated masses simulating exostoses.

The Teeth.

The teeth exhibit definite changes. The hard tissue shows absorption, and the periodontal membrane is thickened—indications of a chronic inflammatory process. Teeth removed from a series of cases are shown in Figs. 10, 11, 12. The teeth illustrated in Fig. 10 were from a man about 34 years of age, who was a mouth-breather and was suffering from mucous colitis. One year previously he had an attack of arthritis involving several of the large joints. The roots of the teeth showed signs of rapid absorption. The condition of the teeth may be taken as an index of the amount of rarefying osteitis. Let me explain this point more fully. Absorption of the hard tissues around the apex of the tooth indicates the [illegible] You cannot have periodontitis [illegible] in the adjacent bony tissue. [illegible] of the tooth the more extensive will be the rarefying osteitis, and the greater the degree of rarefying osteitis the greater will be the liability to direct infection of the tissues.

The molar teeth frequently show large masses of adventitious tissue in the cleft between the roots, indicating extensive loss of osseous tissue at these points. The specimens shown in Fig. 11 are very good examples of the condition of the teeth from cases *exhibiting deep pockets* and profuse suppuration. For two years treatment by vaccines had been tried, but the patient, who was suffering from marked septic poisoning, continued to "run down hill." The removal of the affected teeth, 14 in number, brought about a rapid improvement in health.

An examination of teeth removed from certain cases of periodontal disease indicates that with the formation of a pocket around the tooth pathological changes commence around the apex of the tooth. This is well demonstrated in the teeth shown in Fig. 12. In this case there was a persistent gingivitis, but as far as could be ascertained neither the pockets nor the bone destruction were very extensive. The teeth on removal showed that around the apices there had been active trouble, as evidenced by the absorption of the tooth tissue which had occurred. This condition can be explained as follows. From the septic focus around the neck of the tooth absorption of toxins or organisms takes place through the periodontal membrane, probably by lymphatics. The material absorbed is held up, as it were, in the tissues around the apex. In other words, there is probably a natural defence at this part of the tooth to prevent the organisms and toxins passing into the general circulation. With the arrest of the toxins, &c., the tissues around the apex naturally react to injury; that is to say, the phenomena of inflammation appear. The formation of these septic foci around the apices of the teeth has, so far as I know, not been recognised, but it is clear that it is an important factor to be reckoned with in considering treatment

2. THE DISEASE AS SEEN IN ANIMALS.

Periodontal disease is of frequent occurrence in horses, in cats and dogs, and in wild animals that have been kept in captivity. A study of the disease in these animals is most instructive, and throws considerable light on the ætiology and pathology of this serious affection. For convenience we may consider this section under two headings: (*a*) wild animals and (*b*) domestic animals.

(*a*) *Wild Animals.*

The odontological collection in the Museum of the Royal College of Surgeons of England contains a unique collection of skulls showing the disease in a wide range of animals. There are examples in rodents, marsupials, herbivora, monkeys, edentata, and the small and large carnivora. As an example, we may take a series of four specimens showing various stages of the disease in the kangaroo and its allies. An early stage is to be seen in a Bennett's wallaby (Macropus bennetti) (Fig. 13). In the maxilla the septa between the anterior teeth have been partially destroyed, and in the region of the first molars the bone shows signs of rarefying osteitis. A more advanced stage can be seen in the skull of a brush-tailed kangaroo (Petrogale penicellata) in the same collection. The disease here is more generally distributed, the mandibular teeth being more affected than in the preceding *specimens*. A slight deposit of calculus is present on the teeth. A skull of macropus (species unnamed) takes us a stage further. Here the bone has been extensively destroyed in the neighbourhood of the right maxillary third molar: the bone shows plenty of signs of rarefying osteitis, while in the mandible there is a marked thickening of the bone in connexion with the right first molar. Lastly, there is the left half of the skull and mandible of a kangaroo in which all the molars have been lost with the exception of one in the maxilla and one in the mandible. (Fig. 14.) The bone around both *these has been* extensively destroyed.

In the carnivora a similar gradational series can be traced, the point of interest being that the disease tends to spread more rapidly in the maxilla than the mandible, owing probably to the less dense character of the former bone. Among the suricates the mandible is more often affected than the maxilla; this is possibly to be accounted for by the fact that the shape and arrangement of the mandibular teeth favour food lodgment. In the museum there are several well-marked examples of the disease in the herbivora. An instructive specimen is shown movements which can aid in the localisation of the cause. Although in later infancy babies may insert their fingers into their mouths if they have sore gums, or may pull their ears if they have earache, or may give some other focalising indications of the seat of pain, during the first few months of their existence their only method of reflex response is to cry—an often expressionless cry—to flex their legs and arms on the body, and to tighten up the abdominal muscles. The diagnostic significance of these actions as indicative of abdominal pain is almost valueless in early infancy. They suggest, indeed, that the infant is in pain, but are no more indicative of pain in the abdomen due to colic or wind than they are of pain in the buttocks due to a pin or a crease in the napkin. But inasmuch as abdominal pain is much the most frequent form of pain in young infants, it can readily be understood why when an infant draws up its legs and hardens its belly it is reported to have stomach-ache, and why the diagnosis is so often correct.

An infant, however, cries for other reasons than because it is in pain. Crying, as I have already mentioned, is a protective reflex. A baby cries in the first instance because by so doing it benefits itself—for example, by expanding the lungs, attracting attention, or obtaining oxygen. The cry, however, may soon become a habit, and may continue long after it has ceased to confer any advantage. Let me give an instance. An infant is put into a bath which is too hot—the protective reflex is aroused, and it cries. Ever afterwards it cries in the same way when it is put into its bath, no matter what be the temperature of the water. The reflex has become a habit, although it has lost its original significance. The more one studies the habits of infants the more one learns to appreciate the importance of "suggestion" in the determination of their actions. Infants far more often cry from suggestion than they do from pain. Pain, it may be, was an associated and integral part of the original reflex, evoked by some particular stimulus, but the same stimulus at a later date, although not sufficiently intense to cause pain, will elicit a cry as an associated reflex. It is most important to be able to differentiate between the cry which is really due to pain and the cry which is due to habit, or which is the emotional concomitant of a compound reflex. The psychological analysis of the reflex actions in infants and of their habits is most interesting and instructive. The infant, before the development of the cerebral centres which are concerned in the perception of sensations, is in almost exactly the same case as an adult in a cataleptic or deep hypnotic trance. That is to say, the lower centres respond to sensory impressions without the interference of independent judgment, and the subject of them can perform complicated and habitual acts without being conscious of the fact. I could give you a great number of instances in which by the application of the methods of psycho-analysis it has been possible to arrive at the causation of many seemingly inexplicable habits in infants. If you have any reason for believing that an infant cries, or behaves in any particular way, from habit, you must review the past history of the infant with the greatest care to discover if possible the event or stimulus which first stereotyped the reflex. The line of treatment you then adopt will be dependent on the nature of your discoveries.

In any particular case in which you suspect an abdominal causation of pain it is necessary not only to exclude habit, but also to eliminate other central causative factors of crying. I would remind you that syphilis is a cause of constant crying in infants, but the same symptom also occurs in babies of unstable nervous systems, and may be due to other causes. The neurotic element may be suspected when there are sleeplessness, restlessness, hyperæsthesia, photophobia, hyperacusis, rigidity of the limbs, dilatation of the pupils, increased tension of the fontanelle, and slowing of the pulse. Proceeding with the method of exclusion, we should next attempt to eliminate the most common causes of pain outside the abdomen. These are dentition, middle-ear trouble, and external irritants. It is the fashion to minimise the importance of dentition as a cause of disturbance in infancy; but it must be remembered that, although the majority of the troubles due to dentition occur immediately before the eruption of the tooth, other reflex or irradiated disturbances are occasioned by sudden and irregular spurts in the development of the teeth, and consequently such may occur at unexpected moments. Pain and crying due to dentition may be recognised by certain concomitant vasomotor phenomena. A patch, or patches, of redness on the cheeks is most suggestive; effusion of the eyes, corneal ulcer, running of the nose, and, above all, localised areas of hyperæsthesia, are almost pathognomonic. Chvostek's sign, or the facial phenomenon, is, in my experience, far more reliable as a sign of the approaching eruption of the canines than as a diagnostic evidence of rickets. Tenderness of the external ear and eczema at the back of the pinna are highly suggestive of troubles in connexion with the cutting of the molars. Then as regards the middle ear: in my experience distension of the tympanic cavity is very common in infants, and with this distension and bulging of the membrane there is almost invariably severe pain. The infant rolls its head about, or maybe bangs it on the pillow, pulls at its ears, or even thrusts its fingers into the meatus. There is usually a history of a previously existing cough, and physical evidence of nasopharyngeal catarrh and adenoids may be present—conditions which account for the occlusion of the Eustachian tube and the consequent distension of the drum of the ear. Under such conditions the chain of glands running along the posterior border of the sternomastoid muscle are probably enlarged or shotty; sometimes the anterior cervical glands are alone enlarged. The diagnosis can be confirmed by direct examination of the membrane with the otoscope.

If we can exclude habit, general nervous excitability, dentition, ear trouble, and obvious external causes of irritation, such as pins, wet napkins, and creases in the clothing, as causes of crying, I think we shall be justified in suspecting that the source of the pain is localised in the abdomen, by far the commonest seat of pain in infants under six months of age.

As I have already indicated, in quite young infants there is little to distinguish the pain due to abdominal disturbance from pain due to other causes. In this, as in other painful conditions, the legs will be drawn up, the arms flexed, and the hands probably clenched; the recti abdominales will be tense and the abdomen hard. There may be areas of hyperæsthesia, but they are difficult to locate, as the infant may be more or less tender all over. With abdominal pain, however, the baby usually appears to be comforted by gently rubbing the abdomen or when laid face downwards on a pillow. Heat applied to the abdomen usually gives relief.

The causes of abdominal pain in their approximate order of frequency are as follows: 1. Dysperistalsis of the intestines, including enterospasm caused by irritation, obstruction, or nervous incoördination. 2. Disturbances of the motor functions of the stomach, including pyloric spasm, hour-glass contraction, spasm of the cardiac sphincter from wind, food, or other causes. 3. Incoördination of the motor functions of the bladder, spasm of the sphincter vesicæ, &c. 4. Referred pain from the thoracic cavity, pneumonia, pleurisy, empyema, &c. 5. Renal colic. 6. Spinal caries and osteomyelitis. 7. Peritonitis, appendicitis, &c.

Dysperistalsis or incoördination of the motor functions of the intestine, and chiefly of the colon or rectum, is undoubtedly the commonest cause of pain in infants. Indeed, in infants under six months of age it is a more frequent cause of pain than all other causes put together. I imagine, therefore, that I shall not waste the time placed at my disposal if I enter somewhat fully into the physiology and pathology of this symptom.

It has been a matter of considerable controversy among physiologists, pathologists, and neurologists whether or no the intestines are provided with nerves capable of transmitting sensations of pain. The work of Dr. Henry Head and Dr. James Mackenzie on this subject is well known. It is argued that the intestines do not possess pain nerves, because clinical evidence proves that they can be cut, lacerated, or pulled without the patient experiencing any symptoms of pain. On the other hand, we know that colic, enterospasm, and other forms of incoördinated contractions of the muscles of the bowel can give rise to exceedingly painful sensations. These painful sensations have been ascribed by Professor Wilms and others to the dragging and pulling of the nerves in the mesenteric attachments and not to stimulation by nerve ending in the bowel wall itself. Explanations of the pain of colic on such grounds seem to me most irrational. The simple explanation given by Professor C. S. Sherrington appeals to me much more forcibly. His explanation is that the sensory nerve endings in the intestines are to be regarded as highly specialised receptors, tuned or sensitised to receive one class of impressions only—namely, those which are of an essentially useful or protective nature. By a process of selective adaptation, both in the phylogenetic and in the ontogenetic sense, the appreciation of all other varieties of stimuli has been suppressed; those only are operative which are associated with dangers to the motor functions.

The motor functions of the intestines are so important to the well-being of the individual that it is obviously of paramount importance that there should be some nervous mechanism to regulate these functions. One essential element in such a mechanism must clearly be a highly sensitive series of receptors to keep the central nervous system in *rapport* with any event which interferes with the normal functions. Hence the sensory receptors turn a deaf ear to all other kinds of stimuli except those which are directly concerned with the motor function. It is through the instrumentality of these highly sensitised receptors that the infant acquires the power of conducting its intestinal motor functions with physiological efficiency. The moment any ill-coördinated contraction interferes with the smooth working of the motor mechanism, the infant's central nervous system is at once informed by the reception of painful impressions, and by a series of automatic and unconscious adjustments peace is restored. Thus slowly and with pain and tribulation the infant arrives at physiological perfection as far as the peristaltic functions of the bowel are concerned.

The mere fact that most of us are entirely unconscious of peristaltic movements which are constantly in operation, and which give us such excruciating pain when they are irregularly conducted, surely emphasises in a very marked degree the physiological efficiency of the method of peristaltic education during early infancy. When we contemplate the smoothness and regularity with which our intestines perform their daily functions we cannot grumble at the throes and pain we suffered in the early days of infancy. These pains are chiefly due to spasms of sphincters and to persistent localised contraction of the bowel musculature; the wave of contraction, instead of sweeping forward with the periodicity and regularity of a musical note, strikes disharmony into our system by coming to a sudden halt at some unexpected and inconvenient node.

Spasm of the pylorus and hour-glass contraction of the stomach are exceedingly common causes of abdominal pain in infants; they are reflexes which are distinctly protective in character, for they are clearly designed to shut off from the vulnerable intestinal tract indigestible or poisonous varieties of food which have gained entrance to the stomach. Abdominal pain due to pyloric spasm, or hour-glass contraction, can be recognised by the visible peristaltic waves which pass across the abdomen from left to right. These waves can be felt as well as seen, and the spasm of the pylorus can also at times reveal it[illegible] as a hard tumour in the region [illegible] appears as the spasm relaxes. [illegible] contraction, a pyloric tumour, constipation, and wasting are the classical symptoms of congenital hypertrophic pyloric stenosis, but they are also far more commonly the syndrome of a purely functional disturbance of the motor mechanism of the stomach—namely, spasm of the pyloric sphincter.

Spasm of the cardiac orifice of the stomach is in my opinion even more common than pyloric spasm; it gives rise to very considerable pain when air has been swallowed or generated in the stomach. Gripe waters and antispasmodics act by relieving this spasm and giving exit to the wind. It is quite as important that the stomach should learn to perform its duties in a business-like manner as that the intestines should acquire proficiency in their own particular motor functions. The receptors of the stomach are therefore highly sensitive to all those forms of stimuli which disturb its functions. Hyperacidity of the gastric contents, either from fermentation of the food or from over-activity of the acid-secreting glands, is a common cause of pyloric spasm. So is the ingestion of indigestible forms of food, especially during the first few days of life. Colostrum is the only food which should be allowed to enter the stomach during this period. Cow's milk, or even human milk, cannot be digested at this period, and therefore may induce spasm or incoördinated movements. The treatment of case[illegible] consist in correcting [illegible] the digestive capaci[illegible] spasmodics. Opium is the most valuable of all drugs, but it must be given carefully at first and then somewhat heroically. Brandy, chloric ether, and the bromides are also valuable, especially when combined with dill water, oil of cloves, or peppermint. If these simple expedients fail, the daily washing out of the stomach with a weak solution of milk of magnesia or carbonate of sodium will generally solve the difficulty.

As I have already indicated, dysperistalsis, or incoördinated contraction of the bowel musculature, is by far the most common cause of abdominal pain in infants; it may be regarded almost as a physiological fore-stage of normal and painless peristalsis. It is, however, very desirable that these necessary but painful experiences in the infant's educational curriculum should be as few and as short-lived as possible, for nothing is better calculated to disturb the development of the central nervous system than constant abdominal pain. It is, therefore, of considerable importance to study the best methods of teaching the bowel its natural functions and the best means of preventing the establishment of bad habits. I am convinced that one of the greatest safeguards against wrong methods of instruction is to leave Nature to work her own system. She has devised a careful method, and has provided in meconium a highly suitable material on which the bowel may practise its tyro efforts. In order that the musculature of the bowel may be excited to contract and perform its functions of peristalsis it is necessary that an adequate stimulus should be applied, neither too strong nor too weak, and this is of special importance during the first two or three days of life when habits are formed. Meconium supplies exactly the right sort of stimulus. It lubricates the mucous membrane and is sufficiently solid to form a very satisfactory motion, until such time as it is replaced by the ordinary constituents of an infant's stool.

I regret to say that it is a very frequent practice to sweep this valuable educational medium out of the bowel by a generous dose of castor oil. There can be no more irrational procedure. The castor oil is too strong a stimulus; it excites active peristalsis, and it deprives the bowel at one fell swoop of the didactic material which should last it for several days to come. The after-effects of this initial over-stimulation are reactionary fatigue and constipation, so that perhaps more doses of the purgative are administered before the incoming milk can supply the basis of a natural stool. In this way the natural rhythm and periodicity of the peristaltic function is interfered with from the very first, and the normal function is only subsequently established with much pain and crying on the part of the infant.

Abdominal pain due to the ill-coördinated movements of the bowel is not, as a [illegible] forms of abdominal c[illegible] always, accompanied [illegible] which may be too [illegible] abnormal. I cannot insist too strongly on the importance of examining an infant's motions carefully. They require to be well broken up and washed in a large quantity of water if their true character is to be revealed. When examined in this way they will often be found to contain a large quantity of inspissated mucus which has not been suspected. Those little white particles so often found in the stools of infants suffering from colicky pains, and which are usually described as undigested curds of milk, can be proved in this way to be composed of little balls of mucus and mucous membrane, which have been torn off the bowel wall and rolled up into the familiar forms as they are forced along the pain-racked lumen of the gut.

The pain connected with this form of peristalsis is usually intermittent; it often commences when the infant takes the breast or the bottle, for the movements of the stomach initiate the storm of waves which roll in disorder and confusion from one end of the intestine to the other. The violence of these pains often causes vomiting, and this vomiting has to be distinguished from vomiting of gastric origin. Vasomotor disturbances nearly always complicate the picture. The feet are cold the face looks drawn and bloodless, sometimes blue round the mouth, and beads of sweat often stand out upon the forehead. Other reflex or irradiated nervous phenomena may occur. The twitching of muscles and the drawing up of the legs are common symptoms, but general convulsions may also manifest themselves; these are usually inaccurately and inappropriately called "internal convulsions." Pain due to dysperistalsis is often relieved by pressure of the hand, by laying the infant on its stomach, or by hot applications to the belly. Massage along the axis of the colon often promotes the onward passage of a wave which has been fixed, as it were, in a localised spasm, and may then give instant relief.

If the points which I have already enumerated are remembered, no difficulty should be experienced in making a correct diagnosis, although we know well that such serious conditions of enterospasm as volvulus, intussusception, hernia, and constricting bands are occasionally mistaken for enterospasms of functional origin. Persistent and stercoraceous vomiting, a tumour palpable by the hand applied externally, or by the finger passed internally through the rectum, persistent constipation, or a muco-sanguineous discharge from the bowel, are diagnostic indications which can hardly be missed with the exercise of ordinary care.

A few weeks ago I saw an infant who was supposed to be suffering from an intussusception. The infant was, as a matter of fact, passing blood per anum, and was suffering from a severe attack of colitis. But colitis can hardly be mistaken for intussusception if the precaution is taken of making a digital examination of the abdomen per rectum.

Now, as regards the treatment of cases of abdominal pain due to dysperistalsis or enterospasm: excluding all those cases which have an organic basis, they may well be divided into the two classes—acute and chronic.

In acute cases energetic means of a nature we would not willingly repeat may be confidently applied. The chief desideratum is to relieve the spasm and keep the bowel at rest until the exciting cause has been removed. To effect these purposes there is probably no better treatment than the old-fashioned remedies, castor oil and opium. It is needless, I imagine, to remind you that care must be exercised in giving opium. I think that small and repeated doses, during which you can watch the effect, are much safer than one comparatively large dose. Tinctura camphoræ composita is a useful form in which to administer opium; one drop given every hour to an infant three months old is not likely to lead to much trouble. Brandy is always a useful antispasmodic, and may be given in 10–15 drop doses to an infant of the same age. All food should be suspended until the symptoms have subsided.

In the more chronic cases we are usually confronted with a vicious cycle of events; the nervous system is made irritable and explosive by the constant sensory impressions which reach it, and the dysperistalsis is encouraged by this very irritability of the nervous centres. It is important, therefore, to dull the excitability of the nerve cells by a nerve sedative such as bromide or opium, while the intestine should, of course, be relieved of all unduly powerful stimuli. The adjustment of the food is naturally one of the factors on which success most depends; cow's milk I regard as a powerful stimulus, especially in the unaltered state; completely peptonised it is less stimulating. Veal broth, whey, or even condensed milk, often help us to tide over temporary difficulties. The most valuable drug I know of in all these cases of irritability of the bowel is petroleum, and this best in the form of an emulsion. Petroleum soothes the bowel; it lubricates its surfaces, and it seems in some way to check decomposition.

Let me now pass on to another group of cases which certainly come under the same category of disturbed motor function. I mean those cases which are characterised by crying and evident pain whenever the infant passes urine. These cases are possibly more common in the case of boys than in that of girls, but in both they are common enough. I do not think, as a rule, the symptoms are dependent on acidity of the urine and irritation of the urethra as the scalding water passes over an irritable mucous membrane. The pain, I believe, is connected with incoördinated muscular contractions associated with the action of the sphincter vesicæ, and possibly with the muscles of the bladder itself; the pain is educational and protective. I only mention these cases because they are so common, and because they often give rise to a suspicion of stone in the bladder.

Renal calculi and concretions of urinary origin give rise to very severe symptoms in infants. The routine examination of the urine is the only means of avoiding mistakes in diagnosis. A short time ago I had under my charge a newly born infant. I took great care to avoid disturbing the peristaltic functions by unsuitable diet, but in spite of my care the infant evinced the clearest signs of abdominal pain. I could not believe that they were connected with the bowel functions, but for quite 24 hours I could not find any adequate explanation of the constant crying. At the end of that time the child began to pass large quantities of amorphous urates, which evidently gave the infant severe pain on their passage through the ureters. I have known several cases in which concretions have crystallised out of a concentrated urine, and I have found quite hard masses in the urethra which have necessitated removal by surgical interference. The pain of renal colic, due to obstruction of the ureters in the passage by calculi, is generally severe in infants; general convulsions often ensue, and there is nearly always evidence of some hyperæsthesia in the loins and back. The examination of the urine is, of course, the most valuable diagnostic guide under circumstances in which gravel is suspected.

Abdominal pain due to spinal disease, caries or osteomyelitis, often escapes diagnosis. The spine, however, should be examined as a matter of routine, and undue rigidity should always arouse suspicion. It is well to remember that lateral movements of the spine apparently cause more pain in spinal caries and osteomyelitis than forcible extension and flexion in the antero-posterior directions.

Pain due to appendicitis and peritonitis is not usually very severe in infants. Examination by way of the rectum is best calculated to reveal the existence of the conditions. Tuberculous peritonitis often runs a very chronic and unobtrusive course, and in my experience gives rise to very little pain.

The only way, after all, to appreciate the illusive symptoms of the impressionist baby is to live with it, or even to sleep with it. But pain must not be regarded as an unmixed evil; it is often a most valuable educational medium.

Harley-street, W.

EXTRADURAL ABSCESS AT THE APEX OF THE PETROUS BONE.

A COMPLICATION OF ACUTE INFLAMMATION OF THE MASTOID PROCESS; OPERATION; RECOVERY.

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An extradural abscess is the most frequent complication of acute inflammation of the mastoid process, being due to direct extension of the infective process through the bone to the outer surface of the dura mater, and is almost invariably found in the region of the tegmen tympani or of the lateral sinus, the latter being most frequent. In this particular instance the situation of the abscess at the inner part of the anterior surface of the petrous bone is so rare that I venture to publish the case in detail. Failure to discover such an abscess invariably leads to death from meningitis, usually from rupture of the abscess through the dura mater into the subdural and subarachnoid spaces of the posterior intracranial fossa; and necropsies proving this can no doubt be recalled by the majority of those who have had an extensive experience in aural surgery.

The history and subsequent treatment of the case are as follows. During the first week of April, 1912, the patient, a girl, aged 18, while at school abroad, had an acute attack of earache on the left side, accompanied by some tenderness over the tip of the mastoid. Within a day or two the drum perforated with considerable relief of the pain, and as there were no serious symptoms the medical man in attendance sent her home to England. The patient first came to me on April 23rd, three weeks after the onset of the trouble. There was a history of intermittent attacks of neuralgia of the left side of the face and for the last two weeks pain in the head, but there was no sickness or giddiness. The patient looked ill, and was dull and languid. Examination of the ear showed marked bulging of the tympanic membrane in the upper posterior quadrant, with a small nipple-shaped perforation from which exuded considerable discharge. There was also some slight tenderness over the tip of the mastoid. The patient was at once put into a nursing home. During the night the temperature was 100° F. and the pulse-rate 104.

Although the general condition pointed to the probability of the mastoid operation being indicated, paracentesis was first performed on April 25th. This seemed justifiable, as there was no pain over the body of the mastoid, and the drainage from the middle ear appeared to be insufficient. After paracentesis the temperature and pulse-rate at once became almost normal and the headaches and neuralgia disappeared. Within two days, however, there was further bulging of the membrane, with renewal of the symptoms. On April 29th the simple mastoid operation (Schwartze's) was performed. The extent of the disease was found to be much greater than had been anticipated. The cortex was dense; the antrum together with a large cell at the tip of the mastoid process were full of pus; and the bone was soft and hæmorrhagic, with dots of pus spreading through it, especially in the posterior group of cells surrounding the lateral sinus.

The operation was extensive, involving exposure of the outer wall of the lateral sinus for a considerable distance posteriorly, with complete removal of the mastoid cells. The opening into the aditus was enlarged, and at the end of the operation fluid could be syringed through it into the middle ear and out of the auditory canal. The wound cavity was lightly packed with gauze. Cultures taken from the secretion showed a pure growth of the pneumococcus.

The immediate result of the operation seemed satisfactory, the [illegible] within a week, and by the fourt[illegible] e heard at least 15 feet off. O[illegible] ere still occasional attacks of neuralgia on the same side, and on changing the dressings a drop or two of pus always oozed out from the depths of the wound just behind the aditus. Examination of the optic discs and of the general nervous system showed them to be normal.

By May 25th the symptoms were so slight and vague, and the amount of purulent discharge so minute, that I thought it permissible to allow the patient to return to the care of her medical attendant in the country, in the hope that change of air and tonics might do her more good than remaining in a nursing home, but he was warned that the case was not progressing normally, as by this time the purulent discharge ought to have ceased. On June 9th (six weeks after the operation) a letter was received from the medical attendant saying there was still some purulent discharge from the depths of the wound cavity which otherwise was quite healthy, and that the hearing seemed normal, but he added the following note: "Within a few days since she arrived she has been sick every morning when she gets up. It passes off, and she goes on all right for the rest of the day. [illegible] of the left side of the [illegible] her temperature sub- [illegible] but is still listless and [illegible]

On receipt of this I telegraphed for the patient to come to London. On June 10th, when I went to the nursing home to examine her, I found her lying curled up in bed on the opposite side, still complaining of slight pain over the affected side of the head, often referred to the eye, with attacks of nausea when she moved about. Examination showed the wound to be much smaller and to be healing well, but a drop of pus oozed from the depths of the wound on the removal of the gauze dressing. There was no nystagmus, and the reflexes and optic discs were normal. Next day the patient was anæsthetised and the wound carefully examined. Pus was found to exude drop by drop from a minute aperture in the tegmen tympani at its innermost margin, through which, however, a probe could not be inserted.

Further operation was then decided on in the expectation of finding an extradural abscess in the region of the tegmen tympani, but as the hearing was normal I promised the parents not to interfere with the tympanic cavity. For this reason the operation was limited to chiselling away the posterior wall of the auditory canal, with the exception of its innermost margin, together with the posterior part of the tegmen tympani. Unfortunately, the suspected extradural abscess could not be discovered even on raising up the dura mater from the underlying bone. The dura mater itself was slightly congested, but its surface was intact and pulsation was definite. The result of the operation was negative.

On June 13th (two days later) the patient complained of feeling sick and of pain in the left eye, but next day she was very much brighter, having no pain or vomiting, and retching less when moved. On dressing the ear no pus was seen to come from the wound cavity. On June 15th she seemed rather worse, being more drowsy, with a constant feeling of nausea, and she lay curled up in bed on the opposite side, having occasional periods of restlessness. It was obvious that there was still some undiscovered cause for these symptoms, and as there was nothing pointing to an intradural lesion it seemed certain that there was a collection of pus situated somewhere between the bone and the dura mater.

Mr. Charles Ballance and Dr. Henry Head were now called into consultation. Dr. Head confirmed that there was no optic neuritis, and that there were no symptoms pointing to an intradural lesion. Mr. Ballance also agreed with this opinion, and as pus was again oozing from the depths of the wound he supported my diagnosis of a deeply seated extradural abscess. Next day, June 16th (Mr. Ballance being present), I operated again, the remains of the posterior wall being freely removed, together with the outer wall of the attic, the malleus, and incus. The anterior portion of the tegmen tympani was then removed as far forward as possible, also the bone between the lateral sinus and semicircular canals, so as to expose the dura mater in the region of the posterior surface of the petrous bone. No extradural abscess could be discovered in this region. It was then decided to work forwards and to explore the inner part of the anterior surface of the petrous bone, even though it involved injury to the superior semicircular canal. The eminence formed by the superior semicircular canal was then cut away, which permitted the lifting up of the dura mater from the anterior surface of the petrous bone. As no pus could be seen, a blunt director was passed forwards downwards and inwards towards the apex of the petrous bone. After it had been inserted for nearly an inch over a drachm of thick yellow pus gushed out. Two fine rubber tubes were then inserted along the track of the director, and the abscess cavity flushed out with dilute hydrogen peroxide solution. The dura mater forming the roof of the abscess was somewhat thickened, and pulsation could not be felt. It was therefore incised for a space of half an inch, when some slightly turbid fluid escaped. A small rubber tube was then fixed into this opening by means of a suture, and the wound cavity lightly packed with gauze.

After the operation the patient was very restless and noisy, the pulse being 118 and the temperature 98°. Vomiting was incessant and was not relieved by a hypodermic injection of 1/6th grain of heroin. The patient lay curled up on the opposite side. As soon as she was conscious it was noticed that there was marked lateral nystagmus to the opposite side. The slightest movement caused the most intense giddiness and gave rise to the sensation that objects were going round in the opposite direction even when the eyes were closed. Next day the temperature was 99–99·4° and the pulse-rate 116–120 The patient lay motionless in bed, curled up in the same position, and objected to the slightest movement. Nystagmus was still intense and the vomiting so incessant as to prevent food being taken by the mouth, subcutaneous injections of ¼ grain of morphia in no way relieving it. Thirty-six hours after the operation collapse was extreme from general exhaustion. Improvement was obtained by means of saline injections and nutrient enemata. This treatment had to be continued for three days owing to the continued retching and vomiting. The patient still retained the same position of lying curled up in bed on the opposite side. The wound was dressed each day, when pus exuded freely from the deeply placed tubes.

By June 20th the general condition was improved, nystagmus being less intense when lying quietly, but there were still marked giddiness and nausea when trying to lift the head from the pillow; also the discharge from the tubes was becoming less. It was now possible to feed the patient by the mouth. She began to sleep better and to make spontaneous movements. On June 24th the tube was removed from the dura mater and the other drainage tubes were also removed, cleansed, and reinserted. The discharge had almost ceased. Next day there was a relapse, the patient being very depressed and inclined to be drowsy. There was also a recurrence of neuralgia in the head and of pain in the eye on the same side. The nystagmus and giddiness were less, but there was still marked vomiting on movement. The optic discs were examined and found normal. Next day there was no discharge from the tubes but the above symptoms had increased in intensity.

On June 27th there was increasing pain in the left eye. The drainage tubes were removed and the dura mater then raised from the surface of the bone by means of a spatula and a blunt probe inserted along the track of the tubes. About half a drachm of thick yellow pus escaped. Next day the patient was much better, although her general condition varied in an extraordinary degree, at one time there being considerable sickness with increase of nystagmus and at another complete freedom from pain or giddiness. By July 3rd the head symptoms, including vomiting and giddiness, had disappeared, and except for general weakness the patient was quite comfortable and could take light food. The wound looked healthy and on removing the tubes some clear fluid escaped in a slight amount. The dura mater was now seen to pulsate, which had not hitherto been noticed. Next day the tubes were removed. On the 7th the patient was allowed up for one hour, in spite of which there was no giddiness. From this time onwards an uneventful recovery took place, although until about the end of July there was still a tendency to giddiness if the patient made rapid movements or over-exerted herself. When seen in January, 1913, the following note was made, "The wound has now completely healed. The ear is in good position, the only external deformity being some depression behind the mastoid region which is concealed by the hair." Ever since December, 1912, the patient has been leading a normal life and enjoying society, including many dances. The hearing on the affected side is extremely bad, the voice only being heard when close to the ear. The high tuning-forks are not heard, showing that the internal ear is involved, the unavoidable result of the last operation during which the superior semicircular canal was injured.

Remarks.—The chief difficulty in the treatment of the case was the vagueness of the symptoms. Although the parents from the first pointed out that their daughter was usually of a bright and merry disposition, yet her dull and listless manner at the time of the first consultation was no more than might have been expected in the circumstances. At the same time, her intermittent attacks of drowsiness were sufficiently noticeable to be remarked upon by the nurses, although this was not brought to my notice until a later date.

After the first operation the unilateral headaches and attacks of neuralgia in the eye were so slight and so intermittent as to be almost neglected. Nevertheless, although no definite lesion could be discovered, one felt rather uneasy with regard to the progress of the case, because of the knowledge that after the simple mastoid operation the patient should be practically well with regard to her general condition within 48 hours; whereas the continuance of headache, neuralgia, drowsiness, or other such symptoms is always suggestive of some further extra- or intradural complication. With this feeling, but at the same time with the hope that the general condition might be due to the patient's temperament, and a suppurating cell the cause of the slight discharge and reflex symptoms, the patient was permitted to leave the home without further operation.

At the third operation it was necessary to remove the eminence of the superior semicircular canal in order to give more room to explore the innermost part of the anterior surface of the petrous bone. Before this was done it was found impossible to separate the dura mater sufficiently from the petrous bone. It was no doubt due to this anatomical fact that the abscess remained so localised and did not discharge itself more freely. The constant occurrence of headaches and neuralgia of the eye on the same side was probably due to irritation of the first division of the fifth nerve within the skull from the proximity of the abscess. Stoddart Barr has noted similar symptoms together with paralysis of the sixth nerve in connexion with suppuration of the cells at the apex of the petrous bone,[1] but in this case the cells were normal.

There was no evidence to prove the exact origin of the abscess, whether it was due to direct infection through the mastoid process, or through the tympanic cavity itself during the period of acute suppuration; but the fact that the head symptoms dated from the beginning of the illness and disappeared when the abscess was evacuated, only to recur again when it re-formed owing to imperfect drainage, points to its development even before the first operation had been performed. The complete absence of labyrinthine deafness up to the time of the last operation excluded internal ear suppuration. A blood count, if taken, no doubt would have shown marked leucocytosis, and further confirmed the diagnosis of an abscess. The difficulty, however, was not the diagnosis, but the situation of the abscess. The unilateral headaches and neuralgic pains in the eye rightly suggested the abscess to be located at the inner part of the anterior surface of the petrous bone.

The failure to discover the abscess at the second operation was due to the fact that the operation was limited in extent because a promise had been given not to injure the tympanic cavity, and consequently sufficient bone could not be removed. The knowledge that a suppurative lesion was present made me hesitate to separate the dura mater too forcibly from the underlying bone owing to the risk of injuring the meninges; this only could be done after the more complete operation, which involved removal of the eminence of the superior semicircular canal.

Upper Wimpole-street, W.

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[1] Brit. Med. Jour., Sept. 26th, 1908.

PNEUMOCOCCAL ABSCESS OF THE LUNG IN CHILDREN.

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THREE varieties of acute abscess of the lung are met with in children. There is the abscess which arises from the presence of a foreign body in the bronchus; the multiple abscesses often following broncho-pneumonia and debilitating illnesses which are found scattered throughout the lung, which are due to a variety of organisms and which are not amenable to surgical interference; and the single abscess due to the pneumococcus with or without a preceding lobar pneumonia. It is as an instance of the last, the least common variety, that I narrate the following case.

A boy, aged 6 years, was admitted into the Hospital for Sick Children, Great Ormond-street, on Nov. 14th, 1911, under the care of Dr. A. E. Garrod. From the parents it was ascertained that he had been in excellent health until five weeks before admission. *His illness* began with what was described as a bilious attack. He became feverish, suffered from pain in the side, and developed a severe cough. He wasted rapidly and became pale and ill. The vomiting attacks became more frequent, the vomit being described as resembling phlegm. He had developed a well-marked lateral curve of the spine since the onset of the illness. His previous health had been good and the family history was unimportant.

On examination the most striking features were the pallor of his appearance and the curvature of the spine in the dorsal region with the convexity to the left. There was no dyspnœa, no cyanosis, no clubbing of the fingers, and no glandular enlargement. The tongue was furred and the breath was rather offensive. Perspiration was excessive. The temperature was 100·2° F., the pulse was 152, and the respirations were 32. The movement of the right side of the chest was deficient. The right base was dull on percussion. There was no Grocco's triangle on the left side. Over the dull area the breath sounds were tubular in the upper part, faint but audible in the lower. The vocal resonance was rather ægophonic. There was no cardiac displacement, the apex beat being in the fourth space in the left nipple line, and there was a systolic murmur to be heard in the pulmonary area. The abdomen was somewhat tumid. The liver and spleen were not palpable, and no mass could be felt. The blood count was as follows: hæmoglobin, 80 per cent.; red corpuscles, 4,408,000; and leucocytes, 21,500. Differential count: polymorphs, 84 per cent.; large [illegible] 0·5 per cent.; large lymphocytes, 6 per cent.; small [illegible] t.; and eosinophiles, 0·5 per cent. The diagnosi[illegible] de, but exploration in two interspaces over the [illegible] On Nov. 16th a radiogram of the chest was ta[illegible] Bruce. He reported: "To the right of the heart opacity is an area of evenly distributed increased opacity to be seen, obscuring the inner portion of the right diaphragm and possessing a sharply defined margin above and a diffuse one externally. It suggests a localised collection of fluid in the right pleural cavity towards the midline and base. Not much real displacement of heart, probably some rotation and apparent displacement on account of spinal curvature."

Despite the negative results of exploration, the blood count, the [illegible] of the boy so strongly suggested the [illegible] to open the pleural cavity to see the [illegible] chloroform was administered, and at [illegible] e right lung in numerous directions with the needle, but no pus could be detected. I therefore excised part [illegible] The opening was just above the dome of the [illegible] ed lung was lying upwards and inwards away [illegible] o adhesions of any kind were present, and the pleura appeared everywhere quite normal. The oblique fissure was [illegible] ing dependent and [illegible] withdrew a syringeful of pus. It [illegible] the wound was sewn up in [illegible] Part of the sixth rib was [illegible] Exploration of the lower [illegible] a distance of 1½ in. again [illegible] an attempt was made to [illegible] er with thick catgut. The [illegible] owing to the depth from the sur[illegible] patient its exact limits could not [illegible] tube was inserted and the gauz[illegible] was greenish-yellow, odourless, a [illegible] pneumococcus. [illegible]

[illegible] healed in four weeks. A well-marked lateral curvature of the spine persisted.

This case presents, I think, certain features of interest. A lateral curvature of the spine is not uncommon in chronic pulmonary conditions, but it occurred rapidly in this patient, and it was on account of this curvature that the parents sought hospital advice. The diagnosis was always difficult. The physical signs could have been accounted for by an unresolved pneumonia with fibrosis of the lung, by an empyema of some duration, or by an abscess in the lung. The polymorph leucocytosis, the pallor of his appearance, the perspiration and e[illegible] ture were in favour of [illegible] empyema was made. [illegible] was negative. A more thorough examination under an anæsthetic was also negative. It then seemed as though the deductions from the clinical signs were at fault and that the condition must be one of fibrosis, but Dr. Garrod decided that an opening into the pleural cavity should be made for more thorough examination. This was done, but the pleura was everywhere normal in appearance, and the lung on palpation felt peculiarly solid. It was as a last resort before closing the wound that a needle was passed into the lung itself and made the diagnosis.

The question then arose whether this collection was intrapulmonary or extrapulmonary—an encysted empyema. If an encysted empyema it could only be a large one arising in connexion with the mediastinal pleura and bulging outwards into the lower lobe. The interlobular fissure was demonstrated to be free from adhesions; the diaphragmatic pleura was seen to be unaffected; and it was necessary to bore through the lung itself to reach the pus. The coughing up of pus during the manipulations and again some days later, taken with the situation of the abscess, convinced me that this was a true intrapulmonary collection.

It is interesting to consider the radiogram in the light of what was found at the operation. Dr. Ironside Bruce reported that it suggested a localised collection of fluid in the right pleural cavity towards the mid-line and base. This was exactly the situation of the abscess. The failure to find pus on exploring with a needle must have been due to the depth of the abscess from the surface. It is an indication that too much stress should not be laid on a negative result if the general condition strongly suggests otherwise. Most writers on the subject have remarked that the exploring needle in cases of abscess may not be of assistance in arriving at a positive diagnosis. It is safer if there are reasonable grounds for suspecting the presence of pus to open the chest and examine the lung directly.

With regard to the treatment it is generally advised that the operation should be performed in two stages: at the first packing is introduced to create adhesions between the visceral and parietal pleura, and at the second the abscess is opened and drained. In this case the toxæmic condition of the patient demanded that relief should be given without delay, and happily no ill-effects resulted from the immediate opening of the abscess.

Acute pneumococcal abscess of the lung in children appears to be rather rare, and most of the works on the diseases of children hardly notice it. The literature is scanty, and those cases which have been reported have usually been the successful cases. I believe that an examination of post-mortem records would bring to light many more cases. Eisendrath[1] in 1901 collected 25 reported cases of acute abscess of the lung following pneumonia, and of these nine were in children under the age of 12 years. All these recovered after operation. Holt[2] has seen three cases, one at necropsy and two after successful operation. Hilton[3] estimates the mortality at 50 per cent. in a review of 15 cases, but in these the age was not stated. The post-mortem records of the Hospital for Sick Children, Great Ormond-street, contain *six cases only of pneumococcal abscess* of the lung. Four of these cases had an empyema also. Four cases were operated on, but in only one of these was the underlying abscess detected. In four cases a diagnosis of empyema was made. In the remaining two the [illegible] ot vary greatly. In [illegible]; in the others the pleural cavity was either obliterated by adhesions or distended with clear or purulent fluid. In three cases there was a definite natural communication between the abscess and the pleural cavity. The right lower lobe was affected in three instances, the left lower in two, and the right upper in one. The size of the abscess cavity varied from a small excavation 1 inch in diameter to a large necrotic sac which had replaced the entire lobe. The larger cavities were divided by septa which contained the subdivisions of the bronchi. In only one case was there a communication between the abscess and a bronchus. In each case where an empyema was present the evidence seemed to show that the abscess was primary. Considerable destruction of lung tissue would be present while the empyema would appear to be of fairly recent origin.

The age of the children is noticeable—four were one year and under, one was 3½, and the oldest was 6 years of age.

I think it must be conceded that pneumococcal abscess formation is a possible mode of termination of a lobar pneumonia. The origin of this type of abscess appears to be in a patch of pneumonia, which instead of resolving after consolidation becomes the seat of pus formation. In fact, the pneumococcus takes on an action which is common to it in other parts of the body, but is rare in the lung itself. Possibly the age and resistance have a bearing on this point. Guinon[4] describes the case of a boy of 4 who succumbed to a pneumococcal abscess of the lung not recognised before necropsy, and suggests the name of "hépatisation grise supparée" for the process. It is quite possible that many [illegible] ess [illegible] ch [illegible] or [illegible] I am very much indebted to Dr. A. E. Garrod for allowing me to operate on and publish this case.

Harley street, W.

[illegible] 37.

[illegible]

[4] Guinon: [illegible] Paris, 1911, xiii., 294.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN: UNIVERSITY OF LONDON.—Mr. F. D. Acland, M.P., has accepted the chairmanship of the council. The Dr. Edith Pechey Phipson post-graduate scholarship, of the value of £40 for one, two, or three years, will be awarded in June. Applications must be sent by May 31st to the secretary, from whom all particulars can be obtained. Entrance scholarships of the value of £60 for three or five years, £20 for four years, and £30 will be awarded on the result of an examination to be held on July 22nd and following days. All particulars can be obtained from the secretary. The Agnes Guthrie bursary for dental students of the value of £60 will be awarded in September.

A CASE OF

PERIOSTEAL SARCOMA OF THE FIBULA WITH UNUSUALLY RAPID THOUGH TYPICAL COMPLICATIONS.

By F. J. WADHAM, M.R.C.S. Eng., L.R.C.P. Lond.,
SURGEON TO THE ROYAL ISLE OF WIGHT COUNTY HOSPITAL;
AND
E. L. HORSBURGH, M.B., B.S. Lond.,
HOUSE SURGEON TO THE HOSPITAL.

THE patient, a girl, aged 20, was first admitted to hospital on August 6th, 1912, with a history of pain and slight swelling in the left knee of three months' duration. Up to that time she had always enjoyed excellent health and had followed her occupation of housemaid without difficulty. There was no history of injury or loss of weight. Examination revealed a swelling of about the size of a hen's egg over the upper end of the left tibia. It was hot and tender to the touch. It was firmly fixed and non-fluctuant. No eggshell crackling was obtained. The head of the bone was not apparently expanded. X rays showed the head of the fibula enlarged with broken outline. Spicules of bone were seen in the middle of the growth. A diagnosis of periosteal sarcoma was made. On August 8th a flap amputation in the middle of the thigh was performed. The growth was examined microscopically, and the following report was furnished by the pathologist: "This is a malignant growth, having the structure of a sarcoma. It is composed of large round cells and spindle cells, and is infiltrating and destroying striped muscle. I conclude it is a periosteal growth."

The patient recovered from the operation extremely well and a primary union was obtained. She was, however, kept in the hospital for observation until Oct. 4th, when she left apparently free from recurrence. She presented herself next at the out-patient department on Nov. 26th, complaining of pain and stiffness in the left groin. Examination showed a firmly fixed, stony hard mass in the left iliac fossa. Masses were also felt in the saphenous ring and following the course of the femoral vein upwards. Recurrence was diagnosed, and the patient was readmitted, but no operation could be undertaken. The patient, beyond the pain in the groin, was very well, got about on crutches with ease, and had not lost any weight. As it was considered useless to detain her in hospital she was discharged on Dec. 8th, 1912.

On Dec. 19th the patient again presented herself at the out-patient department suffering from most urgent dyspnœa and cough. Examination showed the left chest to be immovable; absolute dulness front and back up to the clavicle. The heart apex beat was in the right nipple line and breath sounds were quite absent. Nothing abnormal was discovered in the right chest. Fluid was diagnosed, and the chest was aspirated below the angle of the scapula and two pints of sanguineous fluid were withdrawn. The symptoms were relieved. The displacement of the heart persisted; the apex beat was now half an inch internal to the right nipple line. The fluid gradually reaccumulated, and the patient's general condition became so bad that further aspiration was deemed inadvisable. She gradually sank and died at 8 30 A.M. on Dec. 30th.

Necropsy.—The thorax and abdomen were opened in the usual way. The left chest contained more than a gallon of blood-stained fluid. When the pleura was swabbed dry it was seen that the left lung was completely collapsed and full from apex to base of solid growth which cut like cartilage. The growth appeared to follow very closely the bronchial tree. The right lung was also studded throughout with recurrent nodules, the largest size being about that of a two-shilling piece. There was, however, a considerable amount of normal lung tissue, but there was no evidence of emphysema. The pleura on the left side was covered with hard growth, which was heaped up to the extent of quite half an inch from the serous lining. Scarcely an inch of the pleura was unaffected. The visceral pleura was affected on both sides, though chiefly on the left. The pleural surface of the diaphragm was covered throughout with growth, though here it was in places heaped up to quite an inch in height. The recurrence in the groin was then examined. There was a mass of stony, hard growth all round the saphenous vein, surrounding also the femoral vein, the external iliac vein, and some way up the inferior vena cava. The circumference of this recurrence all the way up was about the size of the closed adult fist. There was considerable œdema of the amputation stump in consequence of this.

The case is, we think, of interest: (1) in proving the intense malignancy of these tumours; (2) in the typical distribution of the metastatic deposits *viâ* the blood stream to the lungs; (3) from the complete lack of symptoms of recurrence till just at the end of the illness; (4) from the post-mortem examination, which showed an astounding amount of growth for the length of the history; and (5) from the intense rapidity of the sequelæ.

Isle of Wight.

A NOTE ON

THE USE OF SUGAR IN HEART DISEASE.

By STANLEY E. DENYER, C.M.G., M.D. Cantab., F.R.C.S. Eng.

PHYSIOLOGISTS have experimentally proved the nutritive value of sugar upon heart muscle. It has been established clinically that it undoubtedly gives good results in some forms of heart disease. In other forms no benefit has been observed from its use. The only way to get a classification of the value of remedies is to put on record the cases we treat with those remedies, both the failures and the successes. The failures are apt to be unrecorded, as they do not cause so much interest as the successes, but they are quite as important for statistical purposes. From the few inquiries that I have made, cases with œdema, cases with anginal pain, and cases where cardiac disease is secondary to renal disease do not seem to be improved by it. In a case of general paralysis of the insane, where the pulse was failing, I tried sugar, but it had no effect. In the following case the effect was so marked that I feel sure the patient's life was saved by it. The clinical history is as follows.

The patient, aged 77 years, had an irregularity of the pulse for some years. On Nov. 8th, 1912, she had a bad heart attack, with rapid, irregular, feeble pulse, cyanosis, and attacks of paroxysmal breathing, which occurred about 5 or 6 A.M. There was no œdema at this time, nor at any time during the illness. I saw the patient at 7 A.M. and ordered inhalation of amyl nitrite, which gave temporary relief. This condition continued for some days, the patient steadily getting worse in spite of digitalis, digitalin, strychnine, dry-cupping, leeching, and frequent inhalations of oxygen. She said that the dry-cupping gave a great sensation of ease in breathing, and the oxygen certainly did her a lot of good, but the improvement was only temporary. On the 14th the patient seemed to be dying; when seen at 11 P.M. it seemed doubtful if she would live through the night. Her relatives thought even worse of her and were firmly convinced that she was going to die, and an experienced nurse whom I had in charge of the case thought there was little hope. I ordered some lumps of ordinary white sugar to be given in milk, and added some syrup to her medicine, telling them to give her four ounces of sugar during the night. In the morning I found the patient very weak, but less cyanosed and with a stronger, slower pulse. Digitalis had been omitted as well as digitalin, as these had not any effect on the heart or pulse. Four ounces of sugar were ordered during the ensuing 12 hours, and after that it was continued in smaller quantities for some weeks. The patient made a slow but steady improvement, the breathing attacks getting less frequent and the pulse stronger and more regular. Her general weakness was very great and she gained strength only very slowly. By the end of February of this year she was able to go out into the garden for a few minutes, and to walk up and down stairs.

Hull.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SPECIAL MEETING OF FELLOWS.

Discussion on Alimentary Toxæmia.

A SPECIAL meeting was held on April 14th, Sir FRANCIS H. CHAMPNEYS, the President, being in the chair.

Mr. J. B. LAWFORD said that during the last few years toxæmia due to disordered conditions of the alimentary tract had been widely accepted, not only as a possible, but as a probable, cause of certain forms of disease of the eye and its adnexa. Although proof was still wanting that the toxæmia and the ocular lesions were cause and effect, much evidence in support of this view was available in the records of carefully investigated cases. General agreement obtained that the ocular tissues most liable to suffer in toxæmia were the uveal tract and the corneosclera; some writers also included the ocular nervous [illegible] especially prone to involvement. [illegible] oral sepsis, especially when due [illegible] orrhœa alveolaris, to inflammatory affections of the eye was almost certainly established. The ocular disease was most commonly a chronic iridocyclitis of a mildly plastic type, but choroiditis, usually localised and exudative, was also met with. Iritis in association with septic conditions of the tonsils had been recorded. The fact must not be overlooked that the large majority of individuals in whom pyorrhœa alveolaris and other varieties of oral sepsis were present did not suffer from irido-cyclitis, and also that irido-cyclitis with precisely similar characteristics was met with in patients whose mouths and teeth were above suspicion. Recurrent forms of episcleritis and sclero-keratitis had also been attributed with reasonable probability, to oral sepsis. These cases were, however, less common, and in his experience more doubtful in their etiology than those of the irido-cyclitis group. It was common knowledge that syphilis, rheumatism, gout, gonococcal infection, &c., had failed as a satisfactory explanation of many cases of ocular inflammation. In recent years enterogenous toxæmia had been invoked as the causal agent in these etiologically obscure cases. The occurrence of iritis, irido-cyclitis, and choroiditis in patients in whom there was evidence, especially from examination of the urine, of intestinal putrefaction, and in whom the above-mentioned causes could be excluded, led support to this hypothesis. Moreover, the improvement in the ocular lesions which often followed treatment of the intestinal derangement tended to confirm the diagnosis. That affections of the optic nerve might be caused by alimentary toxæmia had been suggested by some observers and discredited by others. Retro-ocular neuritis, the etiology of which was often very obscure, might be one of the results of auto-intoxication, and cases were on record which were less easily explained by any other theory. The possible etiological relation of auto-intoxication to infective processes in eyes recently operated upon was one deserving the closest attention of ophthalmic surgeons.

Dr. J. C. G. LEDINGHAM, whose paper will appear in a future issue of THE LANCET, said that his interest in the question was naturally confined to the bacteriological and biochemical evidence advanced by the school of Metchnikoff in support of their master's thesis, which asserts that the poisons elaborated by the micro-organisms of the intestinal tract, and particularly those harboured by the large intestine, are the most potent factors in the production of a long array of symptom-complexes loosely grouped under the term "auto-intoxication," and further that these same poisons are the essential causes of the sclerotic changes in the organs which accompany old age. Mr. Ledingham discussed the main bacteriological evidence which Metchnikoff and his pupils have brought forward during the past four years in support of the theory of intestinal intoxication. This evidence had been sought for in the following types of research: (1) an investigation of the flora of the large intestine or of the fæces with a view to the classification and identification of the various bacterial groups and their biochemical properties; (2) experiments on the toxic action of filtrates of special groups of these micro-organisms in animals; (3) analogous experiments with substances of definite chemical composition, especially indol; and (4) alteration in the intestinal flora as the result of food changes, constipation, and operations undertaken for the removal of the large intestine.

Dr. JAMES GALLOWAY spoke of the Cutaneous Indications of Alimentary Toxæmia. He said that the poisons capable of producing toxæmia resulting in these manifestations of disease seemed to come from two sources: first, those contained in the food itself or arising from the food by the action of ferments in the alimentary tract—these ferments might be those normally produced by the various accessory glands or might have some abnormal origin owing to disease or other causes; secondly, those resulting from fermentative or putrefactive processes due to the action of organisms which might be normal denizens of the alimentary tract or interlopers. Most of the external manifestations seemed to be more easily traceable to the first group of poisons than to the second, though this might very possibly be due to the fact that the noxious consequences of the action of many of these organisms, such as bacteria, were more difficult to appreciate and to trace to their original source. The outward menifestations grouped themselves easily in four main categories: 1. Those resulting from disturbances of the blood-vessels which disappeared leaving no permanent trace. 2. Morbid conditions in which an inflammatory lesion progressed to actual infiltration of the integuments with cellular elements and terminating in persisting deformity, such as dilatation of blood-vessels, atrophy, persistent dermatitis, ulceration, and scarring. 3. Purpura in its different forms—punctate, diffuse, and often associated with other hæmorrhagic manifestations. 4. Pigmentation due to increase or abnormal distribution of pigments closely related to those of the normal type, such as melanin, or in other cases to pigments more recently derived from hæmoglobin and due to hæmolysis resulting from the circulating intestinal toxins. 1. Of the first group, the various forms of simple or acute urticaria were by far the most common. The relationship between the ingestion of an unusual article of food, such as shell-fish or certain fruits, with the consequent outburst of urticaria, was so close as to leave no reasonable doubt that the poisonous material was contained in the ingested substance, or was very easily elaborated from it by the digestive ferments. A little more difficulty was felt when dealing with other varieties of the disease, such as the recurring type of urticaria, in which the lesions were usually not so severe or extensive as in the acute single attack, or the chronic variety, in which the lesions were usually diffusely scattered, though not large individually and left indurated lesions, giving rise to the term "papular urticaria." The relation between the various forms of erythema and alimentary toxæmia was more obscure. That such a relation did exist was borne out by the clinical experience of the causation of some of the simpler forms of erythematous eruption. The types of erythema exudativum in which, in addition to dilatation of the capillaries, escape of the contents of the vessels occurred into the tissues—either the blood serum or the blood cells—were by far less common than the simple erythemas. They were less likely, therefore, to observe the association between eruptions of erythema exudativum and affections of the alimentary tract, but that the relationship did exist in many cases was more than probable. The general impression given by clinical observation of this group of external manifestations was that the urticarial type was more frequently produced by the direct absorption of noxious ingesta or as a consequence of the more simple chemical changes in foods occurring in the upper portion of the alimentary tract from the action of the natural alimentary ferments; while eruptions of erythematous nature more frequently arose from affections of the intestines, especially the large intestine, in which the terminal processes of digestion took place, the poisonous materials involved being of a more subtle character, or perhaps due to the results of fermentations produced by bacteria or other organisms. The purpuric types of erythema seemed especially to indicate that the changes occurred in the colon or large intestine. 2. Closely allied to these lesions were certain others in which, in addition to the erythematous condition, tissue changes occurred. Of these the criterion was the appearance of new cellular elements—neither red blood cells nor white blood cells, but newly formed cells, characteristic of various types of inflammatory infiltration. The type of this morbid state was the disease usually known as lupus erythematosus—a condition closely resembling in its distribution erythema multiforme, but terminating in some degree of destruction or atrophy. The etiology of this mysterious affection was by no means well understood, but its connexions with visceral disturbances should never be overlooked. A good deal of attention had been drawn to its peculiar relationship with certain forms of disease of the kidney. In other cases a poison arising from the alimentary tract might be suspected of being the cause. 3. The probability of alimentary toxæmia being the cause of certain cases of purpura had long been recognised clinically, for the connexion between the outburst of purpura and the disturbance of the alimentary canal was sometimes as close as the outburst of urticaria following the eating of some unusual article of food. Many purpuric lesions arose no doubt by a peculiar development or simply by intensification of the conditions already noted producing erythema. They formed, however, on account of their aspect so characteristic a group that they claimed special attention. One of the most remarkable conditions in which the connexion between poisoning from the alimentary tract and the outburst of purpura was shown was in certain stages of hepatic cirrhosis. Another variety of purpura presented small hæmorrhagic areas of petechial or punctiform lesions. The relationship between this condition and alimentary toxæmia was very distinctly shown in Henoch's purpura. The same type of purpura was very familiar in association with chronic inflammatory conditions of the colon, such as the varieties of colitis and dysentery. The attacks were especially prone to appear when other evidences of toxæmia or septicæmia became prominent. There were grounds for associating the type of purpura characterised by large areas of cutaneous hæmorrhage with absorption of poisons from the upper part of the alimentary tract. These poisons might arise from infected food materials or might be produced by the normal, or only slightly abnormal, processes of intestinal digestion. The petechial and punctiform types of purpura, on the other hand, appeared to occur as the result of the terminal digestive changes or abnormal fermentative processes occurring in the lower reaches of the bowel, possibly influenced by the micro-organisms present in the alimentary tract. 4. This group included the abnormalities of pigmentation. The unhealthy, dusky discolouration of the skin occurring in various forms of indigestion was a matter of ordinary observation. Much attention had been drawn in the course of this discussion to the discolouration occurring in the cases of disease to which the name of intestinal stasis had been applied. It was difficult to be quite sure of the exact nature of this pigmentation. It was partly due, no doubt, to disturbances of the circulation producing unusual conditions of opacity or translucency of the skin, but in other cases, no doubt, it was due to a definite increase in the amount of the pigments identical with, or nearly related to, the normal skin pigment. The cases, however, which were most striking were those in which the pigmentation was due to unusual or abnormal pigments. The first to which reference should be made was the hæmolytic, or "urobilin jaundice," well seen in the severer forms of anæmia, many of which were associated with septic disorders of the alimentary tract. The most striking of all the varieties of abnormal pigmentation was seen in the cases to which the name of "hæmochromatosis" was given. The relationship between some of these cases of hæmochromatosis with poisoning arising from the alimentary tract was very close. In this category might also be included the cases of discolouration due to alterations in the hæmoglobin to which the names of "methæmoglobinæmia" and "sulphæmoglobinæmia" had been applied. In many of these abnormal pigmentations the relationship to alimentary toxæmia was a close one—probably that of cause and effect.

Dr. A. MANTLE (Harrogate) said that large numbers of functional disorders of the alimentary canal found their way to Harrogate from all parts of the world, and amongst them many were seen with symptoms which he thought were rightly considered as due to absorption of toxins, the symptoms varying with the particular tissues affected. They must have a picture in their mind's eye of the mucous tract from the naso-pharynx to the rectum, for they were dealing with a mucous disorder, and an endeavour must be made to localise the source of the infection. The paramount importance of a mouth being free from septic organisms was by no means fully recognised by the doctor or dentist. He therefore carefully examined the teeth and the mucous membrane of the mouth, tonsils, and nasopharynx, for careful investigations of apparently trivial infections of the mucous membrane of the nose and tonsils had explained the cause of many cases of rheumatoid arthritis He next examined the stomach and inquired for any symptoms of gastritis due to oral sepsis, and examined for dilatation, knowing that stasis of its contents with fermentative changes led to auto-intoxication. The most common form of alimentary toxæmia was due to constipation with catarrhal inflammation of the colon, for the stasis of the fæcal contents of the colon was favourable to bacterial multiplication and possible absorption of toxins. Absorption, however, did not usually take place unless there was a weak mucosa possibly with abrasions or ulceration of the mucous membrane of the stomach or colon and a weak condition of the cells of the liver diminishing its antitoxic function. There was sometimes a more or less general infection of the mucous membranes, including the respiratory mucous membrane, and he had seen cases of asthma associated with intestinal toxæmia. Nervous symptoms were common. for the toxins had a special affinity for the nerve centres, hence constipation was frequently associated with neurasthenia. Neurasthenia might cause constipation. The vaso-motor centres were also affected, and this explained the unbalanced circulation—too little blood in the periphery and too much in the splanchnic area. There was also usually a great state of fatigue. The skin was usually sallow and there might be skin eruptions—e.g., eczema, psoriasis, urticaria, and pruritus, from the absorption of toxins. The joints might also be affected, and some cases of rheumatoid arthritis could be traced to an infection from the intestinal mucous membrane. In five cases he had seen purpura chiefly of the lower extremities. The treatment of alimentary toxæmia resolved itself into removing all sources of poisons from the nose and mouth as well as from the stomach and colon. Intestinal lavation with sulphur water had been very successful in his hands in the intestinal form. This was followed by an immersion bath of warm sulphur water to assist any arthritic or skin manifestation and open out the circulation, and he thought the brilliant operative measures they had heard advocated were seldom required.

Mr. J. G. TURNER, from observation of the results of treatment directed to dental sepsis only, was sure of the existence of an alimentary toxæmia due to *dental sepsis.* The components of dental sepsis and dental caries, pyorrhœa, tartar, artifact causes of sepsis, were all governed by the root-factor stagnation—stagnation of germs and soft, starchy, and sugary foods. It might be termed germ-carbohydrate stagnation. He gave the results of his observations, showing that both in man and the lower animals dental sepsis ran parallel with the occurrence of germ-carbohydrate stagnation, citing the occurrence of pyorrhœa and dental caries in South Sea Islanders and in captive monkeys. The islanders made extensive use of cocoa-nuts and captive monkeys were largely fed on bread. Jaws of the seventeenth and eighteenth centuries showed far less pyorrhœa than those of to-day. Fine ground flour was the determining factor. Dental sepsis, including the early stage of pyorrhœa, a marginal gingivitis, was as common in children as in adults. Dental sepsis was a factor for evil long before pus was an obtrusive symptom or the teeth tender, and was accompanied by fœtor which could be demonstrated by passing whisps of cotton wool between the teeth and smelling. Fœtor was as common in children as in adults. Carious teeth, ill-made fillings, ill-fitting crowns and bridges, and tooth-plates were storehouses for decomposing food and débris. The swallowing of putrefaction products played an important part in the production of alimentary toxæmia. In treatment the most radical was the safest means, in hospital practice especially so, because of the danger of artifact sepsis. Those who had not inquired would be astonished to find how many people lived comfortably with few or no teeth. He did not wish to be understood to say treatment short of extraction was useless. Most gratifying results could be obtained by local treatment if the patient could maintain the clean state so arrived at. Vaccines, he thought, would fail because of re-accumulation, and the advent of new germs or of a variant of the old, and the impossibility of preventing putrefaction Their effects might also be evanescent For prevention he urged cleanliness and a return to bread made f coarse ground meal.

Dr **ARTHUR F HERTZ** examined the evidence on which a iagnosis of toxæmia due to chronic intestinal stasis could be ade It might be gathered from what some clinicians had aid that it was possible to make a diagnosis from the ymptoms alone, but even those which were regarded as most haracteristic were by no means pathognomonic It was not ncommon to be told by a patient, who was in the habit of aking large quantities of aperients for constipation, that the ymptoms from which he suffered were better if he forgot to ake his aperient and his bowels were not opened They ppeared to be due to the absorption of poisons from he abnormally fluid fæces in his colon, and were a result f the diarrhœa produced by his aperient and not of is constipation In such cases he had often found hat the bismuth reached the rectum in the normal ime, although no aperient was taken, but the patients ad become so convinced that their bowels would not act without help that they made no attempt to open them The X rays afforded the only reliable means of determining whether a patient was suffering from chronic intestinal stasis and of ascertaining exactly what parts of the alimentary canal were at fault It was, however, first necessary to determine whether large doses of bismuth salts nterfered with the normal activity of the bowel, for it had rightly been pointed out that they were among the best drugs for combating certain forms of diarrhœa Bismuth salts only influenced those cases of diarrhœa in which excess of sulphuretted hydrogen had developed as a result of abnormal putrefaction This gas was a powerful stimulant to the intestinal movements, but it was rendered inert by combining with bismuth He now used barium sulphate instead of bismuth oxychloride, as it did not combine with sulphuretted hydrogen, and under no circumstances affected the motility of the stomach or intestines The first examination of a case of constipation by means of the X rays was made by him in 1907, after he had examined a considerable number of normal individuals. The figures that he and his collaborator had published of the average time taken for bismuth to reach different parts of the bowel in normal individuals had since been taken as a standard, and any case in which delay, when compared with this standard, had been observed had too often been diagnosed as an example of intestinal stasis The error of this was obvious, when it was remembered that their figures represented the average of considerably divergent times The so called writhing of the duodenum, which had been described as occurring in cases of intestinal stasis as a result of a supposed duodenal kink, was nothing else than the normal peristalsis and segmentation rendered more clearly visible than usual by the great quantity of bismuth containing chyme present The skiagrams which had been published as examples of the dilated duodenum, which was stated to give rise to duodenal ulcer and to be due to obstruction by a duodenal kink, really represented a duodenum of normal size, which was exceptionally full as a result of posture, as they were told that before the skiagram was taken it was necessary for the patient to lie on his right side for two or three minutes, whilst in cases of duodenal ulcer the rapid evacuation of the stomach was an additional factor In over 50 cases of uncomplicated duodenal ulcer he had not yet seen a dilated duodenum or a duodenal kink; the stomach was always hypertonic and emptied itself with unusual rapidity, the bismuth passing through the small intestine and reaching the colon with remarkable speed The constipation which was generally present was not the cause of the ulceration, as in many cases it only developed after the symptoms of ulcer had appeared, and it almost invariably disappeared as soon as the ulcer healed—whether as a result of medical treatment or of the performance of a gastro-enterostomy They had found that the bismuth containing chyme reached the end of the ileum an hour or even longer before any appreciable quantity passed into the cæcum and that the ileum was often still full four or more hours after the last traces of bismuth had left the stomach Consequently an accumulation of chyme occurred in the last few inches of the ileum, where it remained and underwent digestion actually for a longer period than in the stomach This was a result of the tonic contraction of the ileo-cæcal sphincter, the function of which was to prevent the passage of the contents of the ileum into the cæcum until sufficient time had elapsed for digestion and absorption of foodstuffs to be complete, as the chyme which reached the cæcum contained only traces of nutrient material in solution Iliac stasis was thus a normal physiological condition of the utmost importance for adequate digestion The normal iliac stasis was increased in all conditions, such as appendicitis, which led to the inhibition of the normal relaxation of the ileo cæcal sphincter The end of the ileum, as it rose from the pelvis to join the cæcum, bent in various directions; as the shadow on the screen was in one plane only, it was natural that it often appeared as if it formed one or more acute angles or kinks, it was obvious, therefore, that no conclusion of any sort could be made from skiagrams alone as to the presence or absence of kinks By palpating the abdomen during the examination it was easy to demonstrate that these "kinks" were in a large proportion of cases only apparent Although there could be no doubt that abnormal bands might occur in connexion with the terminal portion of the ilium, even though their existence could not always be demonstrated with the X rays, he did not feel convinced that they were of any importance, except in quite exceptional cases The obstruction offered by a genuine iliac kink was hardly ever as great as that normally offered by the ileo-cæcal sphincter three inches farther on In the skiagrams published to illustrate the iliac kink the lumen was not even always narrowed When it was narrowed, there was nothing to show that the narrowing did not represent a division produced by the segmentation, which normally occurred with great activity in the end of the ileum Nothing short of almost complete stenosis could lead to stasis of any importance as the contents of the ileum were always so fluid that they could pass through a very narrow passage without difficulty A true iliac kink, if it ever really led to iliac stasis, probably did so by inhibiting the relaxation of the ileo cæcal sphincter In normal individuals examined with the X rays the hepatic and splenic flexures almost invariably appeared to be acutely kinked. This again was the result of the shadow being cast in a single plane, as the limbs of the flexures belonging to the transverse colon were in front of those of the ascending and descending colon respectively, and therefore the flexures appeared to be acute, although they formed a wide angle when looked at from the side He had seen a pelvic cæcum and a dropped transverse colon just as frequently in healthy individuals as in constipated patients, and he had never been able to convince himself, when a pelvic cæcum was associated with constipation, that there was any causal relationship between the two conditions, as in the majority of cases dyschezia without delay in the cæcum or in any other part of the colon was present Ptosis of the transverse colon never led to kinking at the hepatic flexure, as this invariably dropped with it, but a sharp kink was occasionally produced at the splenic flexure, as the phreno colic ligament was stronger than any other of the intestinal attachments His investigations had shown that in a large majority of instances only part of the colon was affected in constipation In nearly half of his cases the rectum was affected alone This condition of dyschezia could be treated with success by re educating the patient to defæcate by regular habits, abdominal exercises, and graduated enemata In other cases the cæcum and ascending colon were alone affected, as soon as the bismuth got into the transverse colon, its passage to the rectum was normal in rate Such patients generally obtained relief by diet, drugs, and massage applied regularly for a prolonged period to the affected part In another group of cases the passage as far as the splenic flexure was normal in rate, but considerable difficulty was experienced in getting beyond this point This was sometimes due to severe ptosis of the transverse colon, the splenic flexure remaining fixed, and sometimes to unexplained muscular weakness of the distal part of the transverse colon Such cases could generally be relieved by the regular use of moderately large enemata without the aid of drugs or other treatment, with the exception of an abdominal support if ptosis was present The comparatively rare cases in which the whole of the bowel was involved were generally amenable to treatment by diet, massage and drugs Only when the whole of the colon was involved and thorough and prolonged medical treatment had proved completely ineffective was ileo-sigmoidostomy the rational treatment.

Mr. FRANK COLEMAN said that the odontological aspect of this subject was concerned chiefly in the sources of alimentary toxæmia, but it also had an important bearing on its consequences and treatment. The mouth acted as a source of alimentary toxæmia only in an indirect manner—viz., by the passage of its contents into the stomach and intestine, for little or no absorption took place by means of its own lining membrane. According to Dr. Andrewes' definition of alimentary toxæmia, which had been largely accepted in this discussion, "actual bacterial invasion of the blood" was excluded, and it was therefore assumed that the lining membrane of the alimentary canal remained intact and absorption took place by some process akin to osmosis, assisted no doubt by the physiological activity of the columnar cells. He mentioned this definition because in stating how the mouth might act as a source of alimentary toxæmia he referred to certain lesions for the purpose of describing how their secondary effects—viz., impairment of mastication and increase of the bacterial contents of the mouth—might play an important part in alimentary toxæmia. Granted this premise, the mouth formed a source of alimentary toxæmia in three ways: (1) Lesions of the buccal cavity, which largely fell into two classes—lesions of the teeth and lesions of the gums; (2) imperfect mastication, which might be due to inefficient teeth or want of teeth; and (3) mouth breathing. There was some overlapping of these classes; still, some such classification served a useful purpose in bringing the facts together. The first class might allow of direct bacterial invasion of the blood, but at the same time some of the bacteria or their toxins were shed into the mouth and swallowed. The pulp of a tooth, as long as its remained alive, could exert a defensive action against the invasion of micro-organisms, and if teeth could always be filled at this stage conservative dentistry would be a satisfactory branch of healing; but when once the pulp was involved by caries and its removal thereby necessitated, conservative work must be regarded as a compromise. The effect of diseased teeth had only within recent years been recognised as a fruitful source of alimentary toxæmia, so that many people still regarded the absence of discomfort in a tooth as tantamount to its harmlessness. Carious cavities in teeth that had not involved the pulp were a potential source of alimentary toxæmia, although their contained bacteria might have produced no inflammatory reaction on the tissues of the mouth, for these cavities acted as incubating chambers and greatly added to the bacterial content of the mouth, and consequently the number of bacteria swallowed. Many of the bacteria that were swallowed became disintegrated and set free intracellular toxins. If one considered the large area of infection that resulted from a suppurative periodontitis involving several tooth-sockets (roughly a square inch per socket), the correlating discharge from such an area, the favourable incubating chamber formed by a tooth-socket for the development of micro-organisms and their toxins, and the mechanical difficulties it offered for efficient drainage, was it to be denied that the mouth might be an important source of alimentary toxæmia? A gingivitis would sometimes directly infect the mucous glands of the cheek that lay opposed to the teeth. The second way in which the mouth might act as a source of toxæmia was by inefficient mastication. If mastication, and consequently insalivation, were imperfectly performed, food was swallowed before being thoroughly broken up, whilst the carbohydrate portion was only partly, if at all, converted into maltose. The effect of this were to throw more work on the stomach and small intestine and so impair digestion, besides which the bactericidal property of the gastric juice was rendered less effective on swallowed bacteria. The detergent effect of fibrous foodstuffs and the scouring action of the tongue and lips were correspondingly diminished by defective mastication, so that débris of food, mucus, and micro-organisms collected on and between the teeth. The artificial means of cleansing the mouth were insignificant in their value as compared with those brought about by efficient mastication. The third way in which the mouth might act as a source of alimentary toxæmia was brought about by mouth breathing and the inhalation of cold air, which might also be impure.

CLINICAL SECTION.

Exhibition of Clinical Cases.—Ulcerative Colitis Terminating Fatally.

A MEETING of this section was held on April 11th, Sir W. WATSON CHEYNE, Vice-President, being in the chair.

Mr. E. M. CORNER and Dr. P. H. MITCHINER showed a case of Chronic Bone Disease. The patient, a girl, had been shown before the Clinical Society on Oct. 26th, 1906. The disease of the bone was then regarded as syphilitic. Later the bony enlargements, confined to one limb and the corresponding half of the pelvis, were shown to be enchondromata. Finally the disease was regarded as a series of developmental errors whose distribution suggested the idea that they were dependent on a dystrophy due to some nervous lesion, possibly congenital. Since 1906 the patient had broken her leg and came to the hospital because union was slow and unsatisfactory. The shortening of the limb in 1906 was 2½ in; when shown it was 5¾ in., the greater part (3½ in.) being due to differences in the femurs.

Mr. CORNER also showed a case of Ossification in the Brachialis Anticus. The patient was a young man who fell on his hand a few months ago, fracturing the lower end of his radius. There was no complaint of any injury or pain in the neighbourhood of the elbow-joint. Later the patient discovered a painless lump in front of the elbow. A skiagram showed that this lump was due to some ossification in the brachialis anticus muscle. Presumably this was the result of a partial rupture of the muscle, done unconsciously at the same accident.

Mr. CORNER and Mr. C. V. ANDERSON showed a case of Recovery after Severe Electric Burns. The patient, a man aged 32, in the course of his work had an alternating current of 10,000 volts pass up his left arm and down his legs. He felt a shock and then became anæsthetic and unconscious. On rising from the ground he was dazed and unaware of the burns he had sustained. These were: 1. Of the fourth degree near the elbow; near the hand the burns were of the second and third degrees. It was noteworthy that the portion of the body making contact had slighter burns than portions of the body farther away. 2. The right foot was burned to the second and third degrees. 3. The left leg and foot were burned to the second and third degrees. The burns were widely distributed. They were sufficiently severe to require grafting. During convalescence signs gradually set in indicating a lesion of his left median nerve, that of the arm up which the current passed. These signs became more marked, and it was supposed that the nerve was burned or caught in the scar. It was exposed and found to have no lesion detectable by the naked eye. The signs and symptoms of this lesion increased, and then began to clear up, which they did completely. The pathological lesion might have been due to the passage in the nerve of an electric current in the opposite direction to the normal passage of impulses, or to some electrolytic change. No record of a similar condition was found.

Mr. C. H. FAGGE showed a case of Myeloma of the Head of the Tibia Seven Years after Enucleation. The patient, a girl aged 11, first noticed a swelling over the head of the left tibia about January, 1905. The pain made her limp, and in April, 1905, the tibia was explored on the suspicion of abscess or myeloma; nothing abnormal was found even after free exposure and drilling of the bone. Pain continued in spite of iodides, and swelling increased, particularly on the lateral aspect of the bone. X rays showed the upper end of the tibia expanded, and the original diagnosis of myeloma was reverted to; there was no albumosuria. A year after the first operation the bone was again exposed, and in separating off the periosteum a large cavity in the bone filled with maroon-coloured growth was entered. The opening was enlarged by cutting away the compact layer with a gouge, when the upper third of the bone was found expanded and hollowed out. Posteriorly over a large area the exploring finger came in contact with bare periosteum. The soft growth was carefully scraped away with a Volkmann's spoon, and the cavity washed out with saline and packed with gauze. Microscopically the growth showed general myxomatous degeneration, but in one part were mingled round and spindle cells with several myeloid cells scattered among them.

Mr. FAGGE also showed a case of Re-formation of the Fibula after Complete Removal of the Diaphysis for Acute

Infective Periostitis A boy, aged 11, was admitted into Guy's Hospital in December, 1911 with an acute inflammatory swelling of the outer side of the right leg, the knee- and ankle joints were not involved Incision disclosed the shaft of the fibula lying bare in a large subperiosteal abscess, its lower limit was the lower epiphyseal line, and through this the bone was divided with a chisel, and the diaphysis separated by torsion, the cavity was packed A second abscess over the outer side of the knee was incised, pus from both cavities contained staphylococcus aureus Saline was infused subcutaneously into both axillæ, and two days later both areas of infusion become infected, and pneumonia developed at the right base Two pectoral abscesses were opened and antistaphylococcal serum was given Skiagrams taken at intervals since January, 1912 showed a gradually darkening shadow in the position of the fibula, which had become completely osseous except just below the upper epiphyseal line Section of the removed diaphysis showed a pyogenic focus in the medulla, from which a sinus led through the compact layer

Mr **LIONEL E C NORBURY** showed a case of Re formation of the Tibia after Resection of the Diaphysis for Chronic Osteomyelitis (? Syphilitic) The patient, a boy aged 10, was admitted to hospital on July 25th, 1912 There was a history of swelling of the left tibia for four years, and a previous history of eye trouble There had been an ulcer on the right leg two years before His father was said to have had a chancre, and his mother to have suffered from tuberculous ulcers of the leg and shoulder On examination [illegible] ving forward of the [illegible] the bone extended from just below the tibial tubercle to 2½ inches above the ankle joint Nodes were present on the tibia, one of which was tender A skiagram showed diffuse sclerosis of bone, with several light areas, suggesting collections of pus There was a small node on the right shin and a scar of an old ulcer on the right leg The diagnosis lay between syphilis and tuberculosis The Wassermann reaction was negative He was treated with mercury and potassium iodide and also with mercurial inunctions No local change occurred In August subperiosteal resection of five inches of the shaft of the tibia was done The periosteum was adherent to the bone in two places, and was button holed at these spots The openings were closed with catgut sutures The periosteal sleeve was closed with interrupted catgut sutures The wound healed by first intention A plaster of Paris splint was adjusted 24 days after the operation, and re applied several times since A skiagram showed a considerable degree of re formation of the shaft which however, was not yet complete The microscopical report on a decalcified section of the bone removed was "Chronic osteitis No evidence of tubercle Evidence of syphilis indefinite also, but there is one area showing a mild endarteritis"

Dr F **PARKES WEBER** showed a case of Ateleiosis in a [illegible] three years ago, and since then there had been little change

Dr **WEBER** also showed a case of Ateleiosis in a woman, aged 20 with a Slight Congenital Malformation of the Hands and Feet The patient, of Polish Jewish descent born in June, 1892, was small and infantile Height, 135 cm, weight 34 kilogrammes According to the mother's account she was born at full term without instrumental aid She learned to talk and walk like other children She was always small and delicate, but had hardly increased in height or general development since the age of 12 She had never menstruated She was the eldest child of healthy parents There seemed to have been no dwarfism infantilism, or congenital malformation of hands and feet in any other members of the patient's family When exhibited there was a slight congenital malformation of the hands and feet, consisting in decided relative shortness of the fourth finger of each hand and the fourth toe of each foot Roentgen ray examination of the hands and feet showed this deformity to be due to shortness of the metacarpal and metatarsal bones The lower jaw was relatively somewhat small and the chin receding The teeth were fairly well developed The thyroid gland seemed very small The breasts were quite infantile, and there was complete absence of pubic and axillary hair Although a small intravaginal portion of the cervix uteri was present, the body of the uterus seemed almost absent, and no ovaries could be felt. In proportion to the bodily growth the patient's mental development seemed to be fairly good, and she was able to earn a little money at machining In regard to the osseous system, there was slight spinal scoliosis Skiagrams showed abnormal persistence of epiphyseal cartilages In those taken of the hands most of the epiphyses were seen to be bordered by a very deep shadow as if by sclerosed bone. Skiagrams of the region of the sella turcica at the base of the skull seemed to show a rather small pituitary fossa with a long, thin posterior clinoid process stretched out in a forwards direction

Mr P **MAYNARD HEATH** showed a case of Pseudo hypertrophy of the Breast The patient was a girl aged 16 In March, 1912, she noticed that the right breast was growing bigger than the left It continued to grow until November, 1912, since when there had not been much increase At no time had there been any pain The breasts began to develop at the age of 14 Menstruation started at the age of 15 and had been slightly irregular, the intervals between the periods being sometimes five or six weeks It was stated that the breast got slightly larger just before the period and decreased after it The right breast was considerably larger than the left There were some superficial enlarged veins, but the skin was normal The whole breast tissue was lumpy and appeared to be divided up into more or less separate lobules. There was no tumour which could be separated from the breast tissue The breast was not adherent to the chest wall There were a few enlarged glands under cover of pectoralis major The left breast was slightly lumpy There were no glands in the left axilla The girl's general health was said to be indifferent and she had a cough, but there were no signs of pulmonary tuberculosis, from which disease her eldest sister, aged 21, suffered The breast had remained in the same condition for the last four months in spite of continuous support and pressure with Scott's dressing

Mr **HEATH** also showed a case of Congenital Cyst in the Parotid Region The patient was a girl, aged 16 A swelling in front of the right ear was noticed soon after birth When the patient's head was erect there was a distinct hollow in front of the tragus At the bottom of this hollow was a hard nodule about the size of a millet seed, which was tender on pressure The skin over the hollow was normal in appearance When the patient bent her head downwards and to the right the hollow gradually filled up and was replaced by a rounded swelling, which projected about half an inch above the surface of the cheek The skin over the swelling then showed a faint blue tinge The swelling was cystic and could be made to disappear by pressure It was not translucent, and no pulsation or impulse could be detected in it There was no abnormality in the auricle or meatus

Mr **LAWRIE H MCGAVIN** showed 1 A labourer, aged 32, who on June 5th 1912 fell a distance of 40 feet, and was admitted to Seamen's Hospital with simple fracture of both bones of the right leg On June 11th Mr McGavin operated and plated the fibula with a four screw plate On July 25th he was discharged apparently cured On August 23rd the plate was removed, and on Sept 24th he was discharged "relieved," but still with swelling of the right ankle On Feb 14th, 1913 he was readmitted with swelling of the left knee joint This swelling subsided under strapping with Scott's dressing but had reappeared each time that he had been allowed to use the joint for walking On Feb 18th the knee joint was washed out with 1 in 5000 perchloride solution There was still some swelling of and fluid in the joint, and much grating on passive movement and slight grating in the right knee joint also X rays showed no bony change 2 A man, aged 38 who had been admitted to the Seamen's Hospital on Nov 11th 1912, suffering from double hernia On Nov 14th Mr McGavin operated under stovaine anæsthesia Bassini's operation was done on both sides On Feb 21st he complained of pain in and swelling of the left calf, and the internal saphenous vein was felt to be thrombosed on the inner side of the left thigh 3 A man aged 63 There was a swelling in the left submaxillary region which appeared to be a mixed tumour of the left submaxillary salivary gland 4 A boy aged 16 A small abscess had been found in the substance of the psoas muscle No carious bone was discovered Cultivation yielded no organism of any kind. Mr. McGavin raised the question as to whether it was a case of non-tuberculous psoas abscess.

Mr. P. Lockhart Mummery read a short paper on a case of Ulcerative Colitis terminating fatally. The patient, a man aged 49, had diarrhœa and bleeding from the rectum for the last three years, but became worse during the last three months before his admission to the hospital. He also had vague abdominal pains, felt very weak and ill, and had lost weight to a considerable extent. The stools varied from eight to ten in 24 hours, and were usually blood-stained. He was admitted to St. Mark's Hospital on Jan. 25th this year. He then had a slight chronic cough, and on examination there were slight signs of tubercle of both apices. He had well-marked pyorrhœa alveolaris. He was very thin, tender over the colon, and was passing a considerable number of stools during the day containing much mucus and blood. A sigmoidoscope examination revealed extensive ulceration of the bowel as far up as could be seen. On Jan. 27th the abdomen was opened in the middle line and the colon thoroughly examined. It was found to be thickened, and numerous ulcers could be felt, but no other lesion. The appendix was brought out through a stab puncture in the right iliac fossa, and an appendicostomy opening established. From this time the bowel was washed out repeatedly with water and solutions of argyrol, 1 per cent. There was some improvement for a time, and the wounds healed by first intention. Soon, however, the skin round the appendicostomy opening became ulcerated, and a slow form of ulceration gradually progressed in this situation, and ate away a large portion of the skin, and exposed the muscles and fascia in the abdominal wall. Nothing that could be done would prevent this ulceration from spreading, and soon there was an ulcer as large as half-a-crown round the opening. The patient's condition varied a good deal during the subsequent weeks. At the beginning of March he was certainly picking up, putting on flesh, and improving generally; but on March 5th he complained of pain in the chest, and on examination there was dulness at the left base. His pulse became rapid, signs of bronchial pneumonia set in, and he died. At the post-mortem examination there were well-marked bronchial pneumonia at both bases and scattered areas of consolidation. The liver, spleen, and kidneys were normal. On opening the peritoneal cavity there were no signs of chronic peritonitis, no adhesions, no enlarged glands; the whole of the ileum was perfectly normal. Very extensive ulceration was found throughout the colon, much more marked in the lower half. Over large areas the mucous membrane was entirely destroyed down to the elastic coat, with only a few islands of mucous membrane which stood up like polypi. Other sections showed well-marked, irregular-shaped ulcers of the most characteristic variety. In many parts of the specimen the appearance at first sight was that of multiple polypi of the bowel. This was, however, an artificial effect produced by the complete erosion of the mucous membrane, leaving small islands of mucosa, usually of a circular shape, and standing up exactly like polypi from the surrounding ulcerated area. It was noticeable that towards the cæcal end of the colon there was marked evidence of healing of many of the ulcers, no doubt due to the fact that this part of the colon, owing to the appendicostomy opening, was enabled to be kept much cleaner than the remainder; in fact, the ascending colon and cæcum showed very little ulceration, although there were numerous scars of healed ulcers. The ulcerated condition in many parts of the colon was so extreme that it would appear to be impossible for the patient to have recovered. As regards the bacteriology of the condition, owing to the large number of organisms usually found in the stools of these cases it was seldom possible to ascertain with any certainty the particular micro-organism which produced the lesion. In this case, however, Mr. Mummery thought that one could be fairly certain of the particular offending micro-organism, although unable to ascertain this by the ordinary culture methods. The nurse who was looking after this patient contracted a bad whitlow of the finger, and was for some days threatened with septicæmia. She was found to be suffering from a pure infection of staphylococcus aureus, and it seemed to him that there was every reason to suppose that this was the micro-organism causing the ulceration in the colon of the patient. Examination of the fæces for tubercle bacilli failed to produce evidence of the ulceration being tuberculous. This case was of interest chiefly for two reasons It was one of the very few cases he had met with in which the patient had not recovered from ulcerative colitis after an appendicostomy. Had the operation been performed earlier he believed this patient would have recovered. As a rule such cases, even where there was very extensive ulceration, rapidly recovered when the bowel was kept washed out, and it was obvious that in this case there was a very marked tendency to healing, although the ulceration was too severe for it to be complete. The other reason why he had ventured to bring it forward was because the specimen in places so closely imitated one of multiple polypi of the colon, although its pathology was of quite a different nature. At first sight one might easily suppose that the specimen was one of multiple polypi unless one examined microscopic sections. The patient was never out of England, and the case was a typical instance of acute ulcerative colitis.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A clinical meeting of this society was held on April 4th, Dr. G. P. Shuter, the President, being in the chair. The following cases were shown and discussed.

Dr. N. T. Whitehead (for Dr. E. Arthur Saunders): Osteo-arthritis in a girl aged 11 years. A slight injury to the left hip occurred last October. Limitation of movement gradually set in, and a recent investigation with X rays revealed lipping of the cartilage and the presence of osteophytes. No possible source of infection was found beyond the presence of two carious teeth.

Dr. Whitehead (for Dr. J. M. Bernstein): Stenosis of Pulmonary Artery. The patient, a man, complained of great shortness of breath associated with pain over the cardiac area, the latter only a recent symptom. There was some degree of cyanosis but no polycythæmia, as might have been expected. The heart was dilated, especially to the right of the sternum. There were no dilated veins in the neck, nor did the liver pulsate. A systolic thrill could be felt over the pulmonary valve; a systolic murmur was audible over the whole of the cardiac area, but more especially over the pulmonary valve.—Dr. Seymour Taylor referred to the difficulties of diagnosis in cases of congenital heart defects. He would have expected in this case to have found evidence of the relief of the tension in the right ventricle along the line of least resistance—viz., through the tricuspid orifice—but he did not find any signs of this. He thought it possible the patient had aortic obstruction.

Mr. Donald J. Armour: A small boy who had received an unusual Injury to his Ulnar Nerve. About six or eight months ago he drove a splinter of glass into the palm of his hand. From the muscular wasting and paralysis it was clear that the deep branch of the ulnar nerve had been cut across just where it passed through the muscles of the hypothenar eminence in company with the deep branch of the ulnar artery. The superficial branch of the ulnar nerve had escaped, as shown by the fact that the inner side of the little and the adjacent side of the little and ring fingers were normal as regarded sensation. The muscles supplied by the deep branch of the ulnar—namely, the small muscles of the little finger, the inner two lumbricales, the interossei and the two adductors of the thumb—were completely wasted. As suture was out of the question Mr. Armour suggested excising the scar, in which no doubt the proximal end of the nerve was embedded, in order to give the nerve a better chance of regenerating.—Mr. H. Tyrrell Gray mentioned a method, adopted in America, of scoring with a small tenotome the scar tissue in lines parallel with the nerve fibres with the object of opening up fresh paths for the regeneration of the divided fibres.—Mr. Armour did not think it applicable to this case.

Mr. Sydney G. MacDonald: Perineal Testicle in a man aged 28. The testicle was small and the scrotum on the same side imperfectly developed. The patient himself was well developed, cycled constantly, and suffered none of the usual inconveniences. With regard to treatment it was not proposed to interfere at present, but if any operation became necessary excision was preferable to replacement in the scrotum of a functionless organ. Testicular neoplasms were more common in imperfectly descended than in normally situated organs, probably because they were imperfectly developed.

Dr. T. C. STOREY (for Dr. H. J. DAVIS): 1. Epithelioma of Auricle in a man aged 72. The growth commenced as a small lump on the outer border of the pinna, and finally broke and formed an ulcer. The auricle was removed, and the considerable raw area resulting skinned over with remarkable rapidity. The rarity of the condition was poin[illegible] ? [illegible] for Epithelioma of Larynx. The [illegible] suffe[illegible] The growth involved the left aryteno-epiglottidean fold, obscuring the view of the left cord. There was no apparent involvement of the tongue or epiglottis, but there was an enlarged gland in front of the left sterno-mastoid. A low tracheotomy having been performed, the growth was removed after dividing the thyroid cartilage in the middle line. The cartilage was then allowed to fall in place and was not sutured. On the sixth day the patient was allowed up and about the ward as a precaution against broncho-pneumonia, the most frequent cause of death after this operation. It was proposed to deal with the glands in a week's time unless signs of recurrence took place.

Mr. OSWALD L. ADDISON: 1. Genu Valgum and Dislocation of Patella in a stout middle-aged woman under treatment for osteo-arthritis, both legs being affected. The left patella lay on the front of the external condyle of the femur, the normal patellar surface of the femur being uncovered; on the right side the displacement was less extreme The patient was unaware of the deformity, which had given rise to no trouble until the last few months, when she began to have severe pain in the left knee. 2. Sporotrichosis in a boy aged 11 years. About the ankle on both sides of the tendo Achillis and spreading for some distance up the leg were numerous spongy-looking granulomatous masses which exuded a small amount of pus, and several sinuses were also present in the neighbourhood. On the back of the calf was a thin, broad, slightly pigmented scar, the result of an old operation, and similar scars were present on the front of the thigh and groin. Just above the knee there were two or three indolent cutaneous swellings which were gradually becoming softer. The movements of the ankle-joint were free, and in spite of the large amount of scarring of the leg the calf muscles were very little if at all contracted. The condition had followed an injury to the right ankle. A painless swelling developed, broke down in about six weeks, and continued to discharge for nearly a year before the patient presented himself at hospital. At this time the condition was thought to be tuberculous, but in spite of treatment gradually spread upwards. The patient's health was unaffected, the condition quite painless, and with the exception of the primary seat of infection and an enlargement of the femoral glands ending in their removal, the disease did not spread beyond the skin and subcutaneous tissues. Numerous pathological investigations had been made, until quite recently Dr. D. N. Nabarro found some mycelial threads and clusters of spores in a film preparation from a scraping, and came to the conclusion that the boy was suffering from one of the varieties of sporotrichosis. Cultural experiments had so far failed, and in order to be successful it was apparently necessary to obtain some pus from an unbroken abscess; this at present had not been possible. Mr. Addison referred to a full account of sporotrichosis by Professor de Beurmann,[1] and also mentioned that two cases of the disease affecting the skin had been published in this country by Dr. Norman H. Walker[2] and by Dr. H. G. Adamson.[3]—In reply to the PRESIDENT, Mr. Addison said the disease in this case had apparently spread by the subcutaneous tissues, but Dr. Beurmann described a form which chiefly affected the lymphatics and glands. The gummata softened and completely liquefied before the skin gave way, so as to lead to infection by secondary organisms. It was from one of these unbroken lesions that it was necessary to obtain pus in order to make satisfactory cultures.—Mr. T. JEFFERSON FAULDER referred those interested to a paper by Professor Ravogli, of Cincinnati, Ohio, read at the International Congress on Tuberculosis at Rome in 1912. The paper contained a very full account of the disease with a number of cases.

Mr. N. BISHOP HARMAN: 1. Exenteration of the Orbit and Partial Excision of Maxilla and Ethmoid for Rodent Ulcer. The patient, a woman aged 54, first noticed a small pimple on the right cheek just under the eyelid 17 years ago. It scabbed, and she treated it herself with various caustics whenever the lump reappeared. From 1905 X rays, zinc ions, and radium each appeared to benefit her for a time. When seen by him in 1911 with a view to operation she had lost the whole of the lower lid, and a rodent ulcer as big as a penny was fixed to the maxilla. An operation for removal of the growth was performed, and all seemed well until September, 1912, when there was recurrence in the orbit. A second extensive operation had then to be undertaken, with the result that the orbit, nose, and antrum were opened into one. The great cavity left gradually sank in a remarkable way, leaving the passage of the nose exposed to view in a striking manner. There had been no lack of treatment, but an earlier appeal to surgery would have left the patient with a sound face and two good eyes. 2. Excision of Lacrymal Sac in a young woman aged 19. Carious teeth had caused periostitis of the maxilla and consequent blockage of the lacrymal duct. When first seen she had had severe dacryocystitis for nine months. The sac was incised, scraped out, and drained. Eventually the whole lacrymal sac had to be removed, the bony duct scraped out, and the puncta destroyed in the manner described in a paper that appeared in the *West London Medical Journal*. The result was excellent. 3. A similar case in a young woman aged 20. There had been a septic mucocele for a month or two.—Mr. FAULDER congratulated Mr. Harman on the result of the operation in the first case, but pointed out that, as the sections of the growth contained cell nests and generally showed evidence of malignancy, it confirmed the well-recognised phenomenon of the transformation of rodent ulcer into epithelioma. He asked whether Mr. Harman had had any experience of an operation whereby the nasal duct was laid open within the nose by an intranasal incision and drainage established that way.—Mr. HARMAN replied that the cases that came before the ophthalmic surgeon were nearly always caused by blockage of the duct high up close to the sac. In these cases operation for exposure of the duct through the nose would not be effective, but the operation suggested seemed to be the right procedure when it was definitely ascertained the block was near the orifice of the duct.

UNITED SERVICES MEDICAL SOCIETY.

Duties of R.A.M.C. Officer with Infantry Battalion on Active Service.

A MEETING of this society was held at the Royal Army Medical College on April 9th, Fleet-Surgeon P. W. BASSETT-SMITH, C.B., R.N., the President, being in the chair.

Major HOWARD ENSOR, D.S.O., R.A.M.C., read a paper on the Duties of an Officer of the Royal Army Medical Corps attached to an Infantry Battalion on Active Service against a Civilised Enemy. After considering the duties of a medical officer with a battalion during mobilisation, Major Ensor dealt thoroughly with the important questions arising as to work on the line of march and in camp. Referring to the duties in a standing camp, he insisted that a camp should be regarded as "standing" when the troops have been in occupation of it for 24 hours and no orders have been issued for them to move. After the expiration of this time, in the absence of orders for the battalion to move on, the site of the camp should be regarded as an area likely to be occupied by the unit for some considerable time, and the necessarily primitive system of sanitation prevailing when a battalion is bivouacking for the night only should be changed for the more elaborate one suitable for a standing camp. This will prevent the serious error of postponing the institution of sound sanitary measures in the expectation that orders may arrive for the troops to move almost immediately, a mistake that frequently leads to the men remaining under undesirable conditions for several days. The sanitary condition of a camp is, perhaps, the best crit[illegible] of discipline of the troops occupying it. A matter of great importance is the cleansing of bivouac areas before starting on the march next day, as the same area is likely to be occupied by other troops at an early date. While advocating the early transfer of the febrile cases to the field ambulance when the troops are on the march, Major Ensor is in favour of retaining men suffering from a moderate degree of fever with their unit, when in standing camp, for 48 hours, isolating them as far as possible in tents or shelters until it is clear that they are not likely to prove able to continue at work. It should be remembered that cases sent to the ambulance tend to be evacuated to the lines of communication and lost to their battalion. That portion of the paper dealing with the duties of the medical officer and the regimental medical establishment in action was of such importance that a summary cannot serve to do more than invite attention to the paper itself, on its publication in full, but it may be said that the lecturer recommends a very thorough training of the regimental bearers in the application of the first field dressing and is inclined to advocate their employment for this purpose and the protection of casualties by the erection of temporary cover, rather than for the carrying of wounded to the aid-posts, during an action. He even suggests that the battalion stretchers instead of being carried behind the companies by the bearers at the beginning of an action, should be carried on a cart under the care of one of the Royal Army Medical Corps detachment, and only brought into use when darkness or a lull in the fighting permits the safe clearing of the wounded from the area of operations. The important question of the best position for the medical officer to take up in action, whether in the firing line or at some point farther back, was also fully considered both by the lecturer and those who spoke after him.

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[1] [illegible] 1912.

[3] Proceedings of [illegible] See also THE LANCET, March 11th, 1911, p. [illegible]

The following officers took part in the discussion: Surgeon-General W. H. MACNAMARA, C.B., A.M.S., Colonel BRUCE M. SKINNER, M.V.O., A.M.S., Colonel J. HARPER, A.M.S. (T.), Colonel J. M. CADELL, I.M.S., Lieutenant-Colonel Russell, Lieutenant-Colonel C. H. BURTCHAELL, R.A.M.C., and Major E. B. WAGGETT, R.A.M.C. (T.).

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Headache.

A MEETING of this society was held on March 19th, Mr. W. G. LAWS, the President, being in the chair.

Mr. H. HERBERT opened a discussion on Headache from an Ocular and Nasal Point of View. He mentioned that the patients generally referred their headaches to their eyes, and complained of aching and redness of the eyes after work or headaches after witnessing cricket matches or attending theatres. These headaches were generally fairly regular and continuous, and not capricious. Among the causes might be mentioned ciliary spasms in hypermetropia, differences between the refraction of the two eyes, and a tendency to squint. He regretted that often these headaches were not cured after taking advice because patients sometimes omitted to wear glasses. In other cases where manifest defects had been corrected other defects became manifest later, and, again, when patients were neurasthenic, they got into the habit of having headaches, and sometimes not sufficient time was given to examination of the eyes.

Mr. H. B. TAWSE continued the discussion from a nasal point of view. Briefly reviewing the anatomy of the nasal cavities, he described first the pain which accompanied acute disease in various parts of the nose. These headaches varied in intensity and character according to the position of the disease, and were due chiefly to the pressure of pus or of hypertrophied tissue. In children adenoids frequently caused headache owing to the deficient oxygenation of the blood. Nasal polypi caused headache, but this was not constant. The nose should be thoroughly examined in all cases of persistent headache.

Local and Spinal Anæsthesia.

A MEETING was held on April 2nd, Mr. LAWS, the President, being in the chair.

Mr. R. G. HOGARTH, in opening a discussion on Local and Spinal Anæsthesia, described the method of action of a solution of novocaine. It was not necessary that the solution should be injected into the nerve itself, but it was injected into the surrounding perineural tissue. This produced complete anæsthesia in the area supplied by the corresponding sensory nerves. When operating on small areas, it was sufficient to infiltrate the surrounding tissue for about two inches round the intended incision, with a 1 per cent. solution of novocaine. In operating on such areas as the scalp or fingers, it was sufficient to infiltrate at right angles to the sensory nerves supplying this area. For instance, the hand could be anæsthetised by infiltrating the median, ulnar, and radial nerves. Brachial plexus anæsthesia could be produced by injecting 60 c.c. of a 2 per cent. solution of novocaine into the brachial plexus as it passed over the first rib. The guide for this was the outer side of the subclavian artery just above the clavicle. Injections necessary to produce anæsthesia in various parts of the body were then described in detail. In particular, it was shown how the three divisions of the fifth nerve could be anæsthetised as they passed out of the base of the brain. For goitre operations it was necessary to infiltrate underneath as well as all round the tumour. Empyemata could readily be opened by blocking the three intercostal nerves concerned.

Mr. C. H. ALLEN reviewed the history of spinal anæsthesia. He employed Barker's solution of stovaine. The canal was punctured between the second and third lumbar interspaces. The patient should sit on the table with the legs hanging over and the back bent, or should lie doubled up with the pelvis and shoulders raised so that the mid-dorsal is the lowest dependent part of the canal. The puncture should be in the middle line, 5 c.c. of fluid allowed to escape, and then a syringeful of the solution injected. Anæsthesia was produced within 10 minutes and lasted for about an hour. No very serious sequelæ had been recorded in this country. Headache and pyrexia very often followed, but the headache was generally relieved by phenacetin. The chief advantages of this method of anæsthesia were absence of post-operative shock, complete muscular relaxation, no venous engorgements or respiratory movements, no starvation, and no post-operative sickness. As a disadvantage was urged the uncertainty of the anæsthesia. This method was contraindicated in cases of advanced sepsis. The special danger of septic meningitis was due to want of care and cleanliness in injecting the fluid. This method had been employed over 200 times at the General Hospital without any fatality, and in very few cases was the anæsthesia imperfect.

LIVERPOOL MEDICAL INSTITUTION.

Acute Pancreatitis.—Exhibition of Cases and Specimens.

A MEETING of this society was held on April 3rd, Mr. R. W. MURRAY being in the chair.

Mr. ARTHUR J. EVANS read a paper on Acute Pancreatitis. During the past 18 months he had operated on three cases. The disease was difficult to recognise and was often missed in the post-mortem room. His first case was a dock labourer, 35 years of age, who had been drinking heavily for ten days and vomiting incessantly for 16 hours. He had intense paroxysmal epigastric pain, the abdomen was retracted and fixed, especially in the upper part; he was delirious, with a rapid, thready pulse and subnormal temperature. On opening the abdomen the under surface of the omentum was studded with white areas; the pancreas was a large mass of necrotic tissue. The patient died in six hours. At the post-mortem examination no calculi were found. The second case was a woman, 51 years of age, fat, and of alcoholic habits, with a history of bilious attacks. She had been vomiting for several days, and had pain in the upper part of the abdomen. There was no jaundice, no abdominal distension, but fixation of the upper part of the recti. On opening the abdomen there were white, glistening plaques of fat necrosis on the omentum. The gall-bladder contained thick viscid bile and small calculi. This patient recovered. The third patient, a healthy man of 52, with no biliary history, was suddenly seized with severe epigastric pain and frequent vomiting. He had obstinate constipation followed by diarrhœa with green offensive stools; there was sugar in his urine. A month after this attack he was again seized with a similar attack. When the abdomen was opened there were extensive adhesions and the peritoneum was red, but no fat necrosis was seen. An irregular mass was found behind the stomach. This was *drained. The gall-bladder and duodenum were apparently* normal. There was marked improvement after the operation, and the sugar disappeared from the urine; on the seventh day after the operation he became delirious and died three days later. No examination could be made. Mr. Evans pointed out the common association with gall-stones, [illegible] he thought the agonising pain in [illegible] ing and collapse, tenderness and [illegible] the abdomen were the important signs. Cases were often mistaken for intestinal obstruction. Drainage of the abdominal cavity and if necessary of the gall-bladder seemed the only treatment available.—Mr. F. T. PAUL thought the intense pain in these cases was typical peritoneal pain not due to the gland. He alluded to pancreatic cysts which, he said, varied much in their results, some being easy to deal with, others discharging a secretion which was very injurious to the tissues. He had seen many obstructed bile ducts that did not cause acute pancreatitis and he thought the causation of the condition was not clear. —Mr. R. W. MURRAY thought the acute pain was due to the irritation of the parietal peritoneum. It was not clear how the panc [illegible] of the duct by [illegible] He had seen a c [illegible] ddenly after an operation on the knee-joint and the patient died. —Dr. A. STOOKES had seen a case in a woman sent into the maternity hospital for intestinal obstruction at full time; in that case Cæsarean section was done. The child was dead, the whole of the small intestine from the jejunum to within three inches of the ileo-cæcal valve was empty and collapsed. The peritoneal surface was everywhere red, *the colour of tinned salmon, and studded with fine yellow* spots; the large intestine contained gas but was not overdistended; the small intestine, 4 inches from the caput cæcum, formed a loop with which the caput cæcum and the vermiform appendix hung down into the pelvis behind the uterus, the mesocolon being there about 6 inches long. No mass was noticed in the upper part of the abdomen. Was it possible that obstruction due to the long mesocolon had caused pancreatic trouble with the fat necrosis of the peritoneum? There had been vomiting and probably reversed peristalsis for several days.—Mr. EVANS, in reply, said that he thought the acute pain and the extreme constipation might be due to the effect of the pancreatitis on the solar plexus.

The following cases and specimens were shown:—

Dr. A. GORDON GULLAN: Myxœdema, woman, aged 55; Pernicious Anæmia, male, aged 49; Pernicious Anæmia (?), *male, aged 55.*

Dr. JOHN HAY: Myasthenia Gravis in a woman; Acute Anterior Poliomyelitis in a man.

Mr. D. DOUGLAS-CRAWFORD and Dr. JOHN OWEN: Patient four years after removal of Tumour of the Spinal Cord.

Mr. R. C. DUN: Congenital Deformity of Ear; Spina Bifida Occulta; Cystic Goitre; Tumour of Foot (Exostosis)

Mr. G. C. E. SIMPSON: Early Keloid; Hypertrophied Scar; Congenital Scoliosis; Child after Congenital Exophthalmos; case of Sarcoma of Thyroid, operation and X ray treatment.

Dr. LESLIE ROBERTS: Disseminated Lupus; Multiple Rodent Ulcer; [illegible] Spreading Lup [illegible]

Dr. G. S. STO [illegible] RICHARD STOFFORD-TAYLOR: Lupus Pernio; Scrofulodermia; *Lupus Erythematosus affecting the scalp; Lupus Erythematosus*; Congenital Syphilis; Syphilitic Leucodermia; Hydroa Æstivale; Darier's Disease, showing the result of treatment with X rays; Ichthyosis.

Dr. FRANK H. BARENDT: Varicella prurigo; Tuberculide vel Syphilide; Tuberculide; Calvities post X rays; Perniones (tubercular).

Mr. T. H. BICKERTON: Cases of Chronic Glaucoma treated by "Elliot's operation."

Mr. HUGH E JONES: Persistent Hyaloid Artery; Epithelioma of External Auditory Meatus.

[illegible] RKE: Lupus [illegible] the Palate [illegible] and instru- [illegible] for Chronic *Suppurative Otitis Media.*

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Exhibition of Patients.—Subglottic Tumour.—Intratracheal Insufflation of Ether.

A MEETING of this section was held on March 28th, Dr. R. D. PUREFOY, the President, being in the chair.

Mr. ROBERT H. WOODS showed a case of Acute Labyrinthitis in a man who was admitted to hospital with pain in the left ear, vertigo, and deafness. He had no fever while in hospital. Two days after admission a sero-purulent discharge appeared in the left external meatus and lasted for two days He said that six years ago he had had a similar attack on the right side, from which he recovered, with complete loss of hearing on that side. There was slight fulness under the sternomastoid on the left side. The membrane was slightly inflamed. No pus was recognisable. He was so deaf that he was unable to hear questions even when shouted into his left ear. The deafness on the right side was absolute. There was slight spontaneous nystagmus and nystagmus after turning of small amplitude, lasting 15 seconds, both to the left and right side. The tuning fork just recognisable on the left mastoid; Schwabach's sign greatly shortened; the teeth slightly jagged at the edges, the central upper incisors slightly notched. Wassermann reaction doubtfully positive. The following day salvarsan was given intravenously, and mercury and iodide of potassium prescribed. Hearing is gradually returning in the left ear. He can now hear conversations three feet away on the left side, but the deafness on the right remains absolute.

Mr. W. I. DE C. WHEELER showed a patient with a Central Dislocation of the Hip. The interest of the case lay in the rarity of the condition and the good functional result obtained by leaving the dislocation unreduced.

Mr. WOODS read a paper on Two Cases of Subglottic Tumour. The first case was that of a boy, aged 11 years, with increasing difficulty of breathing. Stridor was very audible and the suprasternal notch sank during inspiration. Bronchoscopy under general anæsthesia showed a fungating granulomatous tumour growing from the right wall of the trachea immediately above the bifurcation. The growth was removed by forceps Bronchoscopy was repeated under local anæsthesia and the tumour gradually entirely removed. *A skiagram showed thickening of the glands at the bifurcation* of the trachea. Six months later there was no trace of the tumour, and the opacity to X rays had completely cleared up. The growth was "round-celled with many blood-vessels, apparently granulation tissue." The second case was that of a man, aged 40, who for some years suffered from difficulty in breathing. The laryngoscope showed a tumour below the vocal cords apparently filling the whole trachea. The movement of the cords was free and the voice unimpaired. The bronchoscope showed the growth to be fixed by a broad base to the anterior part of the larynx or trachea below and clear of the vocal cords. A piece removed for examination was reported by Professor O'Sullivan to be malignant. The growth was removed by [illegible] It was found to grow from the cricoid [illegible] an uninterrupted recovery, but [illegible] *oid fever, from which he died* three months later. The trachea was obtained, and the site of the growth found to be perfectly healed.

Dr. H. DE L. CRAWFORD read a paper on the Intratracheal Insufflation of Ether, and demonstrated his apparatus. This method was first introduced in 1909 for experimental work, and ever since then had been used with marked success on human beings. It consisted essentially in forcing etherised, warmed, and filtered air into the trachea at a point one inch above the bifurcation through a catheter which was passed through the larynx from the mouth The air then returned between the catheter and laryngeal wall. The chief advantages were that it permitted full oxygenation of the blood even if both pleuræ were opened, that no blood, vomit, or mucus could get down through the glottis, and that the anæsthetist was *quite out of the surgeon's way.* In operations on the head and neck. He had found the method quite free from danger and very satisfactory, but emphasised the necessity for using an automatic safety valve of mercury. —Sir JOHN LENTAIGNE said that he had often felt the need for some means of producing positive pressure to do away with collapse of the lungs in operations on the chest wall, and the instrument shown would appear to do this. Unquestionably, in any case in which the chest wall had to be interfered with to any extent the apparatus must add enormously to the safety of the patient.—Dr. T. P. C. KIRKPATRICK said that theoretically the method seemed to be one which would overcome some of the most serious difficulties that anæsthetists had to deal with. He pointed out that the apparatus would be chiefly used for operations on the thorax, but thought there was a considerable field of usefulness for it in upper air-passage cases.—Mr. A. A. MCCONNELL pointed out that the expense of negative pressure cabinets had hitherto almost prohibited their use. He detailed the variety of cases in which the instrument had been used with the greatest success, and noted that Frazer, of Philadelphia, used the instrument in all his head cases. It was not necessary to have the patient deeply anæsthetised when introducing the tube.

ULSTER MEDICAL SOCIETY.—The first pathological meeting of the session of this society was held in the Pathological Laboratory of the Queen's University on April 3rd, Dr. R. W. Leslie, the President, being in the chair.—Professor W. St. C. Symmers and Dr. W. W. D. Thomson showed specimens illustrating Streptotrichal Infection of the Scrotum of a pony, and a series of Pathological Specimens from cases in which sudden death had occurred (ruptured thoracic aneurysm, hæmorrhage into the pons, hæmorrhage into the ventricles, and broncho-pneumonia after measles causing sudden death in a tram-car).—Dr. C. Kevin and Dr. Thomson showed slides from a case of Splenomedullary Leucocythæmia showing improvement under arsenic.—Dr. J. E. MacIlwaine gave a fully illustrated demonstration of Pipette Analysis for the examination of small quantities of blood, urine, &c.—Dr. W. J. Wilson showed a new Vaccine Container, and illustrated methods for administering vaccines by weight rather than by number.—Sir John Byers and Dr. Thomas Houston communicated a paper on a very rare case of Tetragenus Septicæmia, fully illustrated with cultures, slides, thermometric charts, &c., in which vaccines had been successfully used in the treatment of the general condition, as well as the local lesion in the ear.—An interesting discussion followed.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of the above society was held on Wednesday, April 9th, Sir Thomas Boor Crosby, president, in the chair. Fifteen directors were present. Four gentlemen were elected members of the society. Since the last court one of the widows in receipt of grants had died. She had been on the funds since 1872, and had received from the society the sum of £2500. Her husband had paid in subscriptions 50 guineas. The acting treasurer, Dr. F. de Havilland Hall, reported that the society would shortly benefit to a very large extent under the will of the late Mr. James Brickwell. Mr. Brickwell was elected a member in 1833, and died in 1893, and by his will made the society his residuary legatee, his son, however, having a life interest in the money. The total amount of the legacy cannot at present be definitely fixed, but will probably exceed £36,000. Dr. de Havilland Hall hoped to be able to make a definite statement at the July court. The invested funds of the society now amount to £101,600. The annual general meeting was fixed for Tuesday, May 6th, at 5 P.M.; notices will be posted to the members in due course. Membership is open to any registered medical practitioner who at the time of his election is resident within a 20 mile radius of Charing Cross. The annual subscription is 2 guineas. Special terms for life membership, which vary with the age of the candidate. Application forms for membership and further particulars may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, W.

Reviews and Notices of Books.

Diseases of Women. By THOMAS GEORGE STEVENS, M.D., B.S. Lond., F.R.C.S. Eng., M.R.C.P. Lond., Obstetric Surgeon, with Charge of Out-patients, St. Mary's Hospital, Paddington; Surgeon (Gynæcological), the Hospital for Women, Soho-square; Physician to In-patients, Queen Charlotte's Lying-in Hospital; Examiner to the Central Midwives Board. With 202 illustrations. London: University of London Press (Henry Frowde). 1912. Pp. 431. Price 15*s.* net.

IN his preface to this work the author puts forward the view, most certainly a correct one, that the study of gynæcology must be carried out upon a pathological basis in the same way as medicine and surgery. The importance of this to anyone who has had much experience in teaching this subject is obvious, and yet, curiously enough, there seems to be rooted in the mind of the student an idea that in some mysterious way the pathology of the female pelvic organs differs from that of the body as a whole, and requires separate consideration and study. No doubt this is a survival of the old ideas which for so many years held the field, and which, even in some modern text-books, have not been entirely banished, that the etiology and pathology of the diseases of the uterus and its appendages have a character of their own and are not to be explained by the principles of general pathology.

Dr. Stevens's reputation as an authority upon pathological anatomy lends additional weight to his views and value to this book. The work is, above all, distinguished by the very clear and full descriptions given of the pathology of the various affections, while the large amount of experience upon which the conclusions are based entitles them to our most careful consideration. It is interesting to turn to the description of so-called endometritis and to read the author's views upon the exact nature of the different conditions grouped under this heading. We are glad to see that Dr. Stevens condemns the term "diffuse benign adenoma" for cases of thickening of the endometrium in which no acute infection has been known to occur. He also rejects the view that such thickening may be due to the persistence of changes which accompany the menstrual cycle. He points out that inflammation in any part of the body essentially consists of two manifestations—namely, leucocytic infiltration and overgrowth of the fixed tissues of the part. Undoubtedly in cases of true endometritis we see the two processes, leucocytic infiltration and overgrowth, both present, and in cases of so-called adenoma we also see exactly the same overgrowth of glands and connective tissue without any leucocytic infiltration. In the author's opinion, therefore, it is perfectly legitimate to regard the endometrial thickenings as the overgrowth moiety of a very chronic inflammatory process due to a past infection from which both the organism and the leucocytic infiltration have disappeared. The suggestion is also put forward that some of these thickenings are toxic in origin and analogous to some cases of chronic mastitis. The author, in our opinion, is inclined to disregard to too great an extent the effect of chronic pelvic congestion, which undoubtedly is very often present, more particularly at the present day, when the prevention of pregnancy is so common a custom. Dr. Stevens would not deny that long-continued or often-repeated congestion of a part will lead to overgrowth just as well as chronic infection, and for this reason we still think that a large number of cases of so-called endometritis are in reality the result of pelvic congestion and not necessarily the sequelæ of infection; and it must be remembered that in many of these no evidence of any infection can be obtained, and often there is nothing in the history of the patient to suggest any such thing

We notice that Dr Stevens favours Gilliam's operation for cases of backward displacement requiring operation performed according to Mayo's method In discussing the treatment of cases of dysmenorrhœa he condemns dilatation of the cervix to an unwarranted degree perhaps when he says that this procedure rarely cures We should not have thought that this was the experience of most gynæcologists; it certainly often fails because it is carried out in cases which are not suited for it and are not in reality cases of true spasmodic dysmenorrhœa The operation is recommended by Dr Stevens to be combined with curettage, and in young sterile women with splitting of the posterior lip of the cervix The chapter on displacement of the pelvic organs is particularly good and the author's recommendations as to treatment are sound Possibly he gives too great a prominence to the part played by the levator ani muscle and too little to the so called endopelvic fascia or the suspensory fascia of the uterus described by Waldeyer A study of the plates in "Liepmann's Atlas of the Anatomy of the Pelvis" shows very admirably how important a structure this fascia is and how a complete prolapse can occur with very little alteration in the levator ani muscle

The whole book is a refreshingly good one; there is no chapter in it that the student or practitioner can read without profit, and, as we have said, it is particularly strong in its pathology The illustrations are good, and the plan Dr Stevens has adopted of reproducing his large micro photographs by direct photography upon a plate exposed in the rays of the epidiascope is certainly a success

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Abhandlungen uber Salvarsan Gesammelt und herausgegeben von PAUL EHRLICH Band II Munchen J F Lehmann 1912 Pp 609 Price 10 marks, bound, 12 marks

La Stérilisation de la Syphilis Par le Dr LEREDDE Paris A Maloine 1912 Pp 147 Price 2 50 francs

Salvarsan in Syphilis and Allied Disorders By J E R MCDONAGH, F R C S Eng, Surgeon to Out patients, London Lock Hospitals London Oxford University Press (Henry Frowde and Hodder and Stoughton) 1912 Pp 164 Price 7*s* 6*d* net

Ueber die Pathogenese der Salvarsantodesfalle Von Dr WILHELM WECHSELMANN, dirigierendem Arzt der dermatologischen Abteilung im Rudolf Virchow-Krankenhaus in Berlin Mit 7 Textabbildungen Berlin und Wien Urban und Schwarzenberg 1913 Pp 84 Price 4 marks

THE continuous outflow of works from the medical press of all countries connected with the subject of syphilis and salvarsan affords a good proof that the medical profession has studied this synthetic remedy thoroughly and that its value is being recognised to the full At the same time the difficulties both of its administration and of the choice of suitable cases are being acknowledged, and inquiries are proceeding to eliminate so far as possible the objections that have been raised against this therapeutic weapon The works the names of which are quoted above all deal in one way or another with salvarsan

In Professor Ehrlich's work are collected a very large number of papers on salvarsan taken from the periodical literature and dealing with the various aspects of the subject They relate to the manner of injection, to the influence of the drug on the nervous system, to its use in visceral syphilis, to by effects of salvarsan, and to the relation of fatal cases and their explanation Some articles relate to the value of the drug in framboesia, in malaria, in scurvy, and in various other diseases Thus it is seen that the book is a storehouse of information on various points in the use of salvarsan, and as such it will prove of value to all who are investigating the use of the drug, but it will be of little value to the general practitioner

Dr. Leredde, in his little treatise, has dealt with many important points in connexion with syphilis He explains clearly the Wassermann reaction, and he shows what the results of an injection of salvarsan are He describes the various methods of introducing salvarsan into the body, and he discusses the causes of unfavourable results He considers that every case should be treated individually and that treatment should be continued until a negative Wassermann reaction is permanently obtained This result, he says, may be attained either by salvarsan or by mercury, and it will follow a four years' course of the injection of "grey oil" On the whole, he is opposed to the simultaneous administration of mercury and salvarsan, as he considers that it will tend to induce surgeons to give doses which are so small as to be ineffective He thinks that it is better, if mercury is used at all, to employ the full treatment and then to give salvarsan if any manifestations of the disease remain, or if salvarsan treatment is ineffectual, then it is justifiable in his opinion to administer a course of mercury

Mr McDonagh's work is *eminently practical, it deals* with the administration of the drug and its value in the treatment of syphilis, and it demonstrates that in suitable *cases the results obtained are excellent The author shows what influence salvarsan has on the Wassermann reaction* and also discusses its employment in diseases other than syphilis

Dr Wechselmann has done much for the spread of the employment of salvarsan, and he has added to the debt which the medical profession owe him by the publication of this timely work on the causes of death in those patients who have died after the administration of salvarsan He points out that the cases requiring investigation are not those in which patients with severe organic disease die after an intramuscular injection of salvarsan, but those in which healthy young persons die within a short time of an intravenous injection with acute symptoms, and when no gross technical error in administration has been committed From the fact that several patients have been injected from the same solution of salvarsan and yet only one of the number has died, it is clear that the cause of the death must be sought in some peculiarity in the patient himself and not be attributed merely to the drug The author discusses the various cases and classifies them so far as is possible, and he comes to the conclusion that in most fatal cases the result could be *directly attributed to the salvarsan in only a very small pro*portion though it may have had some influence in many He thinks that a very large number of the deaths could have been avoided if more care had been taken in the administration of the drug He advises that the greatest care should be taken in the technique; that the dose should be carefully adjusted to the case, that the condition of the kidneys should always be investigated, for any deficiency in the action of these organs increases the danger, that *mercury* and salvarsan should never be administered simultaneously, but that if the combined treatment is desired the salvarsan should be given first and then after an interval the mercury may be cautiously employed, and lastly, that all abnormal symptoms and any rise of temperature after an injection of salvarsan should be carefully investigated in order that the cause may be found and remedied if possible

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Die Vasomotorisch Trophischen Neurosen Eine Monographie von *Dr R CASSIRER, Privatdozent an der* Universität Berlin Zweite umgearbeitete und vermehrte Auflage Mit 24 Abbildungen im Text und 24 Tafeln Berlin. S Karger 1912 Pp 988 Price 30 marks.

THE second *edition of Dr Cassirer's monograph* on vasomotor and trophic neuroses contains the results of numerous investigations during the last decennium on the difficult subject of which it treats. There is much, nevertheless, that remains obscure in the etiology and pathogenesis of such affections as Raynaud's disease, erythromelalgia, sclerodermia, acute circumscribed œdema, acroparæsthesia, and multiple neurotic cutaneous gangrene, which are the main topics of the monograph. Medical science is only beginning to realise the intimacy of the associations between the sympathetic system and the glands of internal secretion, and there is a wide field yet to be covered ere the chapter of the vasomotor and trophic neuroses can be completed.

Dr. Cassirer's monograph may be heartily recommended to the profession as an authoritative statement of the present state of our knowledge on the subject. An anatomical and physiological introduction of some 130 pages deals with the vasomotor tracts and centres, the secretory mechanism, and the vexed question of the trophic functions of the nervous system. The clinical descriptions of the various diseases above specified leave nothing to be desired. Their pathology and differential diagnosis are handled in a masterly fashion, although in a large volume like this we think room might have been found for more pathological illustrations. Nor should the reader omit the paragraphs on treatment; they serve their purpose well. A most extensive bibliography, probably the best that has ever been collected, and a series of fine X ray and coloured plates, materially enhance the value of the book. There is no index.

A Manual of Surgical Treatment. By Sir W. WATSON CHEYNE, Bart., C.B., D Sc., LL.D., F.R C S. Eng., F.R S, Honorary Surgeon-in-Ordinary to H M. the King; Senior Surgeon to King's College Hospital; and F. F. BURGHARD, M.S. Lond., F.R C S Eng., Surgeon to King's College Hospital and Senior Surgeon to the Children's Hospital, Paddington Green. New edition, entirely revised and largely rewritten with the assistance of T. P. LEGG, M S. Lond., F R.C.S. Eng., Surgeon to the Royal Free Hospital, Assistant Surgeon to King's College Hospital, and ARTHUR EDMUNDS, M.S Lond., F R C S Eng, Surgeon to the Great Northern Central Hospital, Surgeon to Out-patients, the Children's Hospital, Paddington Green. In five volumes. Vol. II. London, New York, Bombay, and Calcutta: Longmans, Green and Co. 1912 Pp. 570. Price 21*s.* net.

THE characteristics which distinguished the first volume of the revised edition of this work are equally conspicuous in the second part. The practical character of the information supplied is evident from a mere glance at the volume, and the practitioner cannot but benefit from possessing such a treatise to which he can refer as need arises.

The first section of this volume deals with the surgical affections of the soft parts, the skin, the subcutaneous tissue, the lymphatic glands and vessels, the fasciæ, bursæ, muscles, nerves, arteries, and veins; the second part includes the surgery of the bones; and the third is concerned with amputations. It will be seen that a wide range of subjects is dealt with, and in every matter the latest methods are described.

In a volume covering so much ground it is inevitable that there must be many points which offer themselves for discussion, and we may refer to one or two of these. In the account of the treatment of an aneurysm by ligature of the artery the following sentence occurs: "The older method was to apply the ligature immediately above the sac—'Auel's operation'"; and a little further on, after the mention of the objections to Auel's method, comes the sentence: "Therefore, the modification of ligaturing the artery at a distance from the sac, known as the 'Hunterian operation,' was substituted." Auel performed his operation in 1710, and Hunter employed his method for the first time in 1785; but there is not, so far as we are aware, any evidence that Auel's method was ever performed in the 75 years which intervened, except by Desault, who used it once in the very same year (1785) in which Hunter introduced his new method; and there is no evidence that Hunter had heard of Desault's operation. Hunter's method was devised, not as a substitute for Auel's method, but to replace the classical operation of Antyllus, which consisted essentially in tying the artery both above and below the aneurysm. Desault's case was perfectly successful, and therefore its result could have no influence in suggesting another operation. This is, perhaps, but a small point, but the idea that Hunter's operation replaced Auel's because of the bad results of the latter method is so firmly rooted in modern surgical literature that it is worth while to point out that it is not founded on fact.

Surely it is time that the word "scrofulous" should be allowed to die. If it is intended to be synonymous with "tuberculous" the latter word is more suitable, and if this is not intended the word is too indefinite in signification to be employed in medical science. We find here the expression, "scrofulous gummata," used; it would be far better to speak of "tuberculous nodules."

These are, of course, mere details. For the rest, it may be said that the views taken by the authors have always authority to support them, and the manual as a whole is a compendious and trustworthy guide to surgery.

A Treatise on Pellagra. By EDWARD JENNER WOOD, S.B., M.D. Chairman of the Pellagra Commission of the North Carolina Board of Health. London and New York: D. Appleton and Co. 1912. Pp. 377, with 38 illustrations in the text. Price, cloth, 16*s.* net.

THIS book is evidently the result of long and close study of the subject. It was begun, we understand, at a time when there was not a single treatise on pellagra in the English language except the short article in Clifford Allbutt's "System of Medicine" and that in the "Encyclopædia Britannica" Great attention has been bestowed by the author upon the work done by investigators not only in America but on the continent of Europe. In addition to much original matter the volume contains an abstract of the literature of the disease up to the present time from most of the foreign countries where pellagra is met with. It is of interest to note that Dr. Wood confesses himself as not being a believer in the maize theory of the causation of the disease, though he carefully discusses the etiology from the zeist as well as from the antizeist points of view.

The work is divided into ten chapters, in which are considered the history and geographical distribution of pellagra, the theories concerning its etiology, the general characteristics of the malady, the skin manifestations, the digestive disturbances, the nervous and mental changes which result, as well as the diagnosis, prognosis, prophylaxis, and treatment. The author, it appears, believes that pellagra is a parasitic disease, though he is not satisfied that the simulium, as claimed by Sambon, is the particular intermediate host in the transmission, but as to this he admits that the question is still *subjudice.* As respects the prophylaxis and treatment of pellagra Dr. Wood contends that they depend entirely upon the etiology of the disease, and until that is completely elucidated there can be no definite pronouncements. In the author's opinion, however, the malady can no longer be classed among the incurable complaints; it is not a self-limited disease, and unless vigorously treated from the beginning the same consequences must follow as in syphilis. He adds, "The therapeutic nihilist has no more right to treat pellagra than he has to treat syphilis." Much therefore depends upon an early diagnosis of the disease, for the most successful treatment is that which is begun early. Dr. Wood is inclined to regard favourably the use of preparations of arsenic.

The book is the work of a scholar who has long and carefully studied his subject, and the volume can be thoroughly recommended as a trustworthy treatise upon an obscure but important malady. As has already been said, it presents a very readable digest of the views of foreign authors, as well as giving in a succinct form many facts carefully collected in America by the author.

Selected Papers on Hysteria and other Psychoneuroses. By Professor SIGMUND FREUD, of Vienna. Authorised translation by A. A. BRILL, M.D., Clinical Assistant, Department of Neurology and Psychiatry, Columbia University. Second enlarged edition. New York: *Journal of Nervous and Mental Disease* Publishing Company. 1912. Pp. 215. Price $2.50.

THIS edition of Professor Freud's selected papers on hysteria has been enlarged by the inclusion of the essay on "wild" psycho-analysis, and of another on the future chances of psycho-analytic therapy. Thus completed, it presents to the English reader a very fairly complete view of both the earlier and the later contributions of Professor Freud to the subject of the psychoneuroses, enabling him to follow the development of the author's ideas and of the methods employed by him in psychotherapy. In the first of the two new papers Professor Freud maintains that the psycho-analyst uses, or should use, "sexuality" in the same sense as the word "love" in the English language, and holds that lack of psychic gratification, with various consequences, may exist where there is no lack of normal sexual intercourse. He deprecates the restriction of the subject to the somatic factor in sexuality, and points out various mistakes in technique committed by over-enthusiastic disciples of his school. In the second paper Professor Freud gives it as his opinion that considerable improvement in therapeutic results will ensue with further knowledge of method. He says that in the matter of the symbolism of dreams and the subconscious life "we actually discover something new every day." The latest discovery is that to dream of climbing a stair is a definite symbol of the sexual act. "Under rhythmic intervals and with increasing difficulty in breathing one reaches a height, and may come down again in a few rapid jumps." Other equally natural explanations do not apparently commend themselves to the author. Our readers will find on p. 1114 of this issue of THE LANCET an interesting article upon Professor Freud's theory of dreams, by Professor William Brown, of King's College, London.

The not always easy task of rendering into readable English the somewhat involved and occasionally elliptic style of the author has been satisfactorily accomplished by Dr. Brill.

Fortschritte der Naturwissenschaftlichen Forschung. Herausgegeben von Prof. Dr. EMIL ABDERHALDEN. Sechster Band. Mit 106 Textabbildungen. Berlin und Wien: Urban und Schwarzenberg. 1913. Pp. 268. Price, paper, 15 marks; bound, 17 marks.

A VARIED menu. The following subjects are presented: The Present Position of Investigation of Lakes—a continuation of the paper in Vol. VI. of W. Halbfass, of Jena. It extends to 72 pages, and deals with the topography, hydrography, and geology of the European lakes. Dr. V. Franz, of Frankfort, devotes over 30 pages to Comparative Neurology and Psychology. It cannot, however, be said that the contribution adds materially to our knowledge of this subject, though it fairly represents such knowledge as we possess as to the relation between the organisation of the nervous system and the psychical life of animals. The author, however, notes particularly that conscientious investigations have so far not led to the conviction that within the species homo sapiens the cultured civilised races possess a more convoluted or even a heavier brain than the less cultured uncivilised races. The author bases his assertion largely on the researches of Professor Kohlbrugge, published in 1911 (not in 1811 as set forth in the text). Professor Korschelt writes in an entertaining fashion about Pearls, giving an account of their structure, origin, and applications. The account occupies about 80 pages, and is both readable and informing; in fact, the story is well set forth in word and in pictures. Artificial and also vegetable pearls are included. G. Eichhorn, of Zürich, gives a short account of Recent Advances in Radiotelegraphy, while Professor Klaatch continues his presentation of the Origin and Acquisition of Human Characteristics. Nearly 70 pages are required to elucidate the author's account of the human foot and man's erect posture. The subject is treated more especially from the point of view of comparative and human anatomy.

A Text-Book upon the Pathogenic Bacteria and Protozoa for Students of Medicine and Physicians. By JOSEPH McFARLAND, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia, &c. Seventh edition, thoroughly revised. With 293 illustrations, a number of them being in colours. London and Philadelphia: W. B. Saunders Company. 1912. Pp. 878. Price 15*s.* net.

PREVIOUS editions of this text-book have been reviewed at length in these columns, and the value of the work as a clear and comprehensive survey of its subject designed for the use especially of the medical man has been fully recognised. That its popularity is considerable is evidenced by the appearance of this, the seventh edition, which is very considerably increased, not only in bulk, but also in the range of its subject matter. The author in previous editions strictly confined his attention to bacteria, and further to those pathogenic to man. The pressure of the rapidly increasing knowledge of diseases caused by protozoa has broken down this conventional limitation and compelled Dr. McFarland, in order to make the work complete as an account of human infectious disease, to admit protozoal diseases to his book.

The growing literature of bacteriology and the resulting specialisation render it more and more difficult to keep a work on general bacteriology within bounds, but the author escapes from the difficulty, as in former editions, by writing especially for the student of human medicine and pathology. This leading idea, though the book is not a laboratory manual, involves such details of laboratory technique as are of service to the practitioner, and especially such as refer to the methods of diagnosis and treatment which grow out of the study of microbiology. The introduction of the protozoa has necessarily increased and altered the chapter dealing with structure and classification, and the completion of the book for the medical man has required the introduction of chapters on the determination of the phagocytic index and on the theory and technique of the Wassermann reaction. This last is very fully described and illustrated in its original form, and also in the modification due to Noguchi.

The second part of the work contains the usual descriptions of pathogenic micro-organisms, with the pathology of the lesions produced by them. The arrangement has been considerably changed since the fifth edition, and seems, indeed, to be rather haphazard. The protozoal diseases are grouped amongst the bacterial diseases and not treated separately. They include malaria, trypanosomiasis, kala-azar, yellow fever, amœbic dysentery, tropical ulcer, and histoplasmosis, this last an apparently new disease of the Panama Canal Zone. Amœbic dysentery is treated with unusual fulness. There does not seem to be any mention of the recent interesting work on anterior poliomyelitis, and in the description of African tick fever Leishman's work is omitted. The spirochæta pallida is dissociated from other spirilla. It is well described, especially with reference to methods of culture. In the chapter on actinomycosis there is not the importance attached to the anaerobic character of the organism found in human disease which is usual in American writings.

The work forms a handsome volume, well printed on good paper and well illustrated, though some of the photographs suffer from over-magnification of the organisms represented.

Infections of the Hand, a Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand, and Forearm. By ALLEN B. KANAVEL, M D., Assistant Professor of Surgery, Northwestern University Medical School, Chicago. Illustrated with 133 engravings. London: Baillière, Tindall, and Cox. 1912. Pp. 447. Price 15*s*. net.

THIS book is composed of two parts; in the one are recorded a large number of experiments on the mode of spread of infections from one part of the hand to another, and an account is given of those anatomical relations which are of importance in the surgery of the hand. The second part applies these facts to the surgical treatment of sepsis of the hand and forearm. There are numerous illustrations showing the lymphatic and synovial spaces of the hand, and an examination of these will demonstrate clearly the reasons why infections of this region spread so rapidly. The site of the incisions required to deal with these infections must depend on the anatomical relations of the part, and the incisions must be rightly placed.

The importance of the hand justifies a very close study of the methods of treatment to be employed in infections involving it, and Dr. Kanavel's book will prove of service in enabling the practitioner to understand the reason of the treatment and in applying it with benefit to the patient. The functional difference between the results of a sepsis of the hand rightly and wrongly treated is very great, and too much attention cannot be bestowed on this subject.

Pathological Inebriety: its Causation and Treatment. By J. W. ASTLEY COOPER, L.R.C.P. & S. Edin., L.F.P.S. Glasg., Medical Superintendent and Licensee of Ghyllwoods Sanatorium. With Introduction by Sir DAVID FERRIER, M.D. Edin., F.R.S. London: Baillière, Tindall, and Cox. 1913. Pp. 151. Price 3*s*. 6*d*. net.

THE numerous works dealing with the medical aspects of alcoholic intemperance that have appeared within the last few years afford gratifying proof of the change that has come over lay and professional opinion with regard to the real nature of inebriety. Mr. Astley Cooper's modest volume is a useful addition to the literature, written under the influence of this new spirit. It deals, as is implied by its title, with inebriety conceived as a manifestation of some defect or disorder of nervous organisation; and though it is by no means easy to fix on the criteria by which cases of this sort are to be distinguished from cases of what, by contrast, we may term normal intemperance, the existence of such a type of neuropathic inebriety is a fact which will hardly be questioned by anyone who has had experience in this matter.

It is, of course, in its bearing on treatment that the recognition of this variety of intemperance has practical importance, for it obviously implies that mere isolation with enforced abstinence, or mere drug treatment directed to a hypothetical specific "drink crave," must be unavailing so long as the underlying nervous disorder persists. This is the view which Mr. Cooper seeks to enforce. He sets out in clear and simple language the methods of treatment which in his experience have given the most satisfactory results, and he points out that these results have been attained by supplementing the ordinary institution treatment by measures directed to the re-education of the will and the development of the power of self-control. The extent to which any such process of character-construction can be carried out is, of course, in many cases very limited, but it is encouraging to observe that those medical men who have had the widest experience in the use of psychotherapeutic methods are the least pessimistic in their view of the possibilities of treating inebriety with success. In agreement with most authorities, Mr. Cooper considers that suggestive treatment, on which he lays special stress, may in many cases be better administered in the waking state; when, however, it is desirable to produce hypnosis, he finds that the best results are got with the most profound degree of sleep that can be induced.

Building a Profitable Practice. By THOMAS F. REILLY, M.S., M.D., Professor of Applied Therapeutics, Medical Department, Fordham University, New York City. London and Philadelphia: J. B. Lippincott Company. 1912. Pp. 290. Price 10*s*. 6*d*. net.

THIS is a book on the practice of medicine from the business point of view as a means of livelihood. It is addressed to American medical men, and although a great deal that is contained in it will be found applicable to professional practice in this country, parts of it are not. Perhaps it is well that in England we take it for granted that attention to duty and reasonable capability are sufficient to ensure success. We also take it for granted that no special business instruction is needed, so we write no books and give no lectures on the making of profits. Dr. Reilly's book is concerned with the making of profits, and every aspect of the medical man's life is considered. There are chapters on post-graduate study, on hospital and dispensary practice, on furnishing and equipment, and on all details of the actual work of a practice, not omitting such intimate matters as the making of friends, personal manners and appearance, and marriage. The chapter on prognosis will be found very useful to the inexperienced man. He is certain to be questioned on this subject by his patients, and his success will depend in great measure on the correctness of his prognostication. The older and more trusted practitioner can often avoid questioning, but the young man is frequently nailed down. He will get much help from this chapter, particularly on that most difficult part of prognosis relating to death itself. The chapters on diagnosis and malpraxis are also very full of useful information, and that on the management of an obstetric case is one to read and mark.

It has been said that the American puts into words what we on this side only think, but there are passages in this book which make us hope that some of the suggested counsel will fall on unintelligent ears. For instance, on p. 62: "When you are examining an applicant for admission to a secret lodge or fraternal insurance company, after routine examination look into the nose for spurs, polypi, or enlarged turbinates. ...... As lodge physicians are expected to give free medical attendance only, any surgical work that is required will be paid for at regular rates, and when you consider that almost every man has some trouble with his nose you will see the size of your field. *The problem before you is simply to convince him that the operation is necessary* and beneficial, and knowing this is true that should be a simple matter." Again, on p. 249 we read: "Soon after you have opened your office, the near-by druggist will probably present you with prescription pads with your name and address above and his own on the bottom or on the back of the page. Unless there be some favours shown to you by a certain druggist it is better to *tear off the name of the druggist from the bottom of the pad.*"

There can be no doubt that the newly qualified man is quite often unfitted to set up in practice for himself, even if he has spent one or two years in house appointments first. In the old days of apprenticeship it was different. He was taught how to "run a practice" and how to deal with people, both of which accomplishments are now allowed to come as they may. They come generally through assistantships and junior partnerships, or by the less pleasant way of costly experience. Perhaps it is better so. Books, however, have their place, and the book under review deserves to find a public; and although we should prefer to have seen some things omitted from it, we are bound to say that it contains a large quantity of very practical and good advice in subjects on which the medical man should be well informed.

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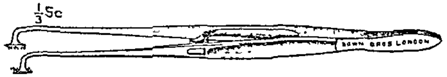

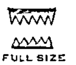

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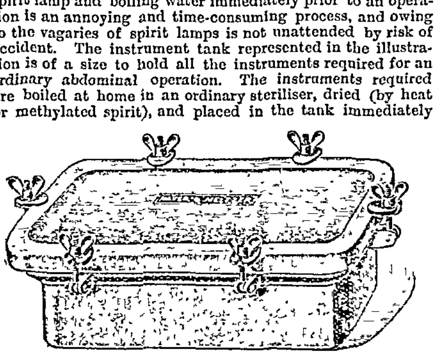
Brighton. ARTHUR J. HUTCHISON, M.B., C.M. *Glasg.*

AN INSTRUMENT TANK.

THE sterilisation of instruments in private houses by a spirit lamp and boiling water immediately prior to an operation is an annoying and time-consuming process, and owing to the vagaries of spirit lamps is not unattended by risk of accident. The instrument tank represented in the illustration is of a size to hold all the instruments required for an ordinary abdominal operation. The instruments required are boiled at home in an ordinary steriliser, dried (by heat or methylated spirit), and placed in the tank immediately ready for use, immersed in methylated spirit, to which, if desired, a proportion of lysol can be added. Sharp instruments, such as knives, scissors, and needles, are kept in the tank permanently and need not be boiled. Ligatures may also be kept in the tank. Once in two or three weeks the instruments should be taken out and cleaned, especially if lysol is used, since it causes a greasy deposit to form upon them. It is also important to see that no blood or water gets access to the tank since in either case the instruments will rust. It should be noted that the tank is not intended for sterilising instruments by heating. It is simply used as a container. The top, sides, and bottom of the box are made of sheet copper. The whole strength of the box is concentrated in the circumference of the lid, which is a gun metal casting, and the top edge of the box itself, which is also cast in gun metal, and has upon its upper aspect all round a deep undercut groove into which a ring of hard rubber is forced by pressure. This groove corresponds with a V-shaped ridge within the lid which bites into the rubber and ensures a spirit-tight joint.



The instrument tank was made to my design by Messrs. Mayer and Meltzer, 71, Great Portland-street, London, W., and has been tested by two years' constant use in practice.

W. SAMPSON HANDLEY, M.D., M.S. Lond.

New Cavendish street, W.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on April 10th, Sir RICKMAN J. GODLEE, the President, being in the chair.

The best thanks of the Council were given to Dr. Charles Hose for presenting some skeletons of adult orangs and other specimens to the Museum.

The Jacksonian Committee having adjudged the Jacksonian Prize for the year 1912 to the author of the dissertation on "The Embryology and Treatment of Cleft Palate" under the pseudonym of "Digamma," the PRESIDENT opened the envelope bearing this title, and declared that the enclosed name was Mr. F. W. Goyder, M.B. Cantab., F.R.C.S. Eng., of Bradford, and to him was awarded the Jacksonian Prize. It was decided to make the following the subject for the Jacksonian Prize for 1914: "The Pathology, Diagnosis, and Treatment of Trigeminal Neuralgia."

The Triennial Prize was awarded to Dr. W. Blair Bell for his essay on "The Anatomy and Physiology of the Pituitary Body and the Relationship with Disease of its Abnormal and Morbid Conditions." It was decided to make the following the subject for the Triennial Prize for the three years ending 1915: "The Human and Comparative Anatomy and Physiology of the Cerebellum."

The PRESIDENT reported that the Sir Gilbert Blane Medals had been awarded to Fleet-Surgeon Richard Cleveland Munday, H M S. *Hyacinth*, 1910, and Fleet-Surgeon Edward Sutton, H.M.S. *Highflyer*, 1911, both Members of the College.

Mr. M. F. Hopson, of Guy's Hospital, was elected a member of the Board of Examiners in Dental Surgery. Sir Rickman J. Godlee, the President, was re-elected a member of the Senate of the University of London for the ensuing four years.

Mr. EDMUND OWEN, Vice-President, reported the delivery of the Hunterian oration by the President. The best thanks of the Council were given to the President for his oration, and he was requested to publish it.

A report from Mr. C H. Golding-Bird on the proceedings of the Central Midwives Board was read, and the best thanks of the Council were given to him for his services as the representative of the College on the Central Midwives Board.

The name of a Member of the College was removed from the roll of Members in consequence of the issue of objectionable pamphlets and advertisements.

The PRESIDENT stated that Thursday, August 7th, had been fixed as the date of the conversazione at the College to the members of the Seventeenth International Congress of Medicine.

The SECRETARY reported that Surgeon-Major Henry Benjamin Hinton, of Adelaide, South Australia, admitted a Member of the College in the year 1835, had attained the age of 100 years on March 7th, 1913. It was resolved to send the congratulations of the Council to Surgeon-Major Hinton.

THE LANCET.

LONDON: SATURDAY, APRIL 19, 1913.

The Royal Commission on the University of London.

The Royal Commission appointed to inquire into the present state of university education in London issued their final report on Tuesday last, and the document is so drastic and at the same time so far-reaching in its nature that we do not propose at the moment to do more than deal with a few general aspects of the case. That any criticism of the findings and conclusions of the Commissioners should be in the least helpful, it is necessary that there should be a close appreciation of their arguments, for in every word of the report proof can be found that it is a closely reasoned document. The Commission was appointed four years ago and a very strong *personnel* was chosen, consisting of Lord Haldane, Lord Milner, Lord Justice Romer, Mr. Laurence Currie, Sir Robert Morant, Sir William M'Cormick, whose work in the cause of education in Scotland is well known, Mr. E. B. Sargant, the organiser of education in South Africa, and Mrs. Creighton. The absence, however, of a London graduate in medicine from this body was felt to be an unfortunate omission. The terms of reference of the Commission were to inquire into the organisation of the present working of the University of London, upon the facilities for advanced education offered by it, upon the proper provision that should exist for teaching and research, and upon the methods which would best combine into a progressive university the incorporated colleges, the Imperial College of Science and Technology, and other schools and university institutions concerned. A report made by such Commissioners upon so difficult a subject was expected to be a document of the first value to education, and this it is, whether we agree with all its findings or not For four years a small body of persons, well qualified, jointly and severally, to consider the general problems of education, have deliberated upon an extremely complicated problem, and in our opinion the result of their deliberations is both helpful and hopeful. That the report will cause apprehension and disappointment in some places, and even considerable chagrin in others, is undoubted. But to arrest the course of a long sickness painful remedies are very usually necessary, and valuable as much of the work of the University of London has been, there is no denying that it has for a long time been suffering from vagueness of aim, from want of coherence in its constituent parts, from poverty, and from multiplicity of antagonistic counsels. Should the recommendations of the latest Royal Commission be converted into an Act of Parliament with promptitude, and the necessary money be forthcoming, we believe that the University of London will shortly embark on a successful career; but there is no denying that many of those concerned in the education of the London medical student will find that the hardships of the position have not been sufficiently realised, and that any Bill framed upon the report will require modification in the light of their especially difficult circumstances.

The Commissioners have been unanimous in their recommendations, for which we cannot be sufficiently grateful. That this would be the case was, we think, foreshadowed by the character of the interim reports, which we have noticed on their appearance. Their main finding is that the whole organisation of the University as at present constituted is fundamentally defective, and not calculated to promote the highest interests of university education in London; and, further, they believe that it is not capable of developing on the present lines into a university such as the capital city of the Empire ought to possess. Such an expression of opinion sufficiently accounts for the sweeping nature of the advice which they give subsequently. The two main grounds of the defective organisation are stated to be:—first, that the present relations of the internal and external sides of the University are unsatisfactory; and secondly, that there exists in the University a combination of institutions differently related to it, and of different educational standard and aims, which cannot be made to work as a harmonious whole. Independent schools of the University, both general, professional, and technological, and "mixed" institutions in which a limited number of the teachers are recognised for University purposes, do not lend themselves to any known scheme of coordination. The want of money is not characterised exactly as a defect of organisation, but it is clear that some of the difficulties which have arisen in the past from the inability to secure harmonious grouping for bodies of divergent views and ideals might have been overcome, or greatly reduced, if the University had been in possession of substantial funds and had wisely administered them. We trust that the lesson here inculcated will be learned. Not only must money be found—the Commissioners suggest at least £99,000 per annum—but it must be spent upon the broad lines required for the realisation of the essentials of a university.

The question of medical education was found, as all our readers who are acquainted with its complications would have expected, to be one of the most difficult with which the Commissioners had to deal. The faculty of medicine has been treated by them, and rightly, as one apart, for the conditions of medical education, whether we consider the teacher or the taught, are not comparable to the conditions which prevail in other professional curricula. The Commissioners desire to see the preliminary scientific subjects form part of a school course; they propose no concentration into two or three institutes of instruction in anatomy, physiology, and pharmacology, recognising the obvious advantages of training the medical student in these early professional subjects at places where he is in touch with clinical and pathological work; and they recommend that university professors in the clinical subjects should be appointed, a recommendation that will entail the formation of university medical colleges

The whole subject of the organisation of a faculty of medicine in London is closely and fully considered in the report, a summary of which will appear in our columns. It should be added that the Commissioners find that the grievance of the London student, that he cannot obtain a medical degree upon reasonable terms, entitling him to the style of "Dr.," must be left to remedy itself through the provision of a proper faculty of medicine in the University; while they describe the question of a one-portal system for qualified medical men as outside their terms of reference. Divergent opinion with regard to the medical faculty is unreconciled by the report. The position of the external student in relation to that of the London medical student is still the debatable point; and we trust that those who debate it will show full appreciation not only of past events but of present urgent needs.

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The Physiological Bearings of New Sources of Fat Supply.

IT is desirable, we think, that the attention of our physiological authorities should be drawn to the rôle of fat in the dietary with special reference to a change occurring in the fatty substances that are being supplied in increasingly large quantities to the public. It is important to realise that the supply of fatty foods is being revolutionised by the introduction of many varieties of vegetable fats which hitherto have found little or no place in the common dietary. The fats at one time available for human use were chiefly the animal fats as represented by beef, mutton, pork, and butter fat, while the only vegetable fat consumed to any extent was olive oil. But now amongst the oils and fats which are included as edible are bean, nut, and seed oils, of which there is a great and growing variety. Cocoanut oil is perhaps the best example of what modern processes of extraction and refinement have done towards bringing vegetable fats into dietetic prominence. In a recently published work[1] upon the subject of the examination of fatty foods the authors say of cocoanut oil that it is used to an enormous extent in every form of foodstuff to which a solid fat may require to be added, that probably no other vegetable fat is so extensively used or adapted to so many purposes, and that its use is daily increasing as a constituent, not only of margarine, but of cakes, biscuits, and sweetmeats. Further, they state that at the present day there is scarcely an animal or vegetable fat, which can be procured in quantity, that has not been tried or actually used in margarine, and even fish oils are being pressed into the service of the manufacturer.

This displacement of animal fats by vegetable or other fats in the diet of the human race raises questions of great physiological importance. The business of the vegetable fat refiner is a lucrative one, and it is not, therefore, likely to shrink. It is a question whether the multifarious displacement which is signified by such commercial enterprise is justified by physiological considerations. We may well ask whether the vegetable fats possess a physiological efficiency equal to butter fat, whether they are as digestible, and whether, generally speaking, in fact, they are equally suitable for the human organism. We are not able to gather any distinct evidence upon the points where it is particularly desirable that such evidence should be obtained, having regard to the enormous quantities of vegetable fats now consumed by the public, when hitherto animal fats occupied the dietetic field in a practical monopoly. We may well express doubt that because any oil or fat is highly refined, deodorised, and bleached it is necessarily suitable for the purposes of human consumption. We remember, indeed, that not so long ago a consignment of oil was used for manufacturing margarine, with the result that the mixture proved to be a drastic purgative. The oil, in fact, was poisonous. We are impressed further by a contemplation of the fact that no food products present so much diversity in natural composition as do the oils and fats, a diversity of character which has made the analysis of oils and fats both prolific of method and uncertain in result. According to the authorities we quote, the examination of butter and margarine presents the most difficult problem which the analyst of oils has to face. When the extreme variation and complexity which may arise in the production of the latter and the wide natural variations of the former are considered, coupled with the fact that adulteration usually consists in the admixture of the one with the other in certain quantities, the difficulties will be appreciated. It is true that a knowledge of the products on the market, ruling prices, and direct information often enable the investigator to solve the problem of margarine mixtures with reasonable certainty, but there is in a large number of cases absolutely no method of arriving at proof that the constitution of any sample of butter fat is due to sophistication and not to natural causes. "This natural variation has brought the analyst," write Mr. E RICHARDS BOLTON and Mr. CECIL REVIS, "into the uncomfortable and unscientific position of having to fix limits of variation in dealing with butter fat, and the result, as always in such cases, is most unsatisfactory; but until some talisman be found which will distinguish the natural from the artificial this state of affairs will probably continue."

When it is recognised that these writers are experts upon the subject (one of them is, in fact, chief chemist to a large and well-known firm of dairy farmers), and that they have placed on record, in the book referred to, the results of many years' experience in the examination of edible fats, it is obvious that their observations cast doubt upon the value of chemical analysis as a means of effective control. The whole question of the supply of butter and butter substitutes, therefore, seems to us to call for careful special inquiry, inasmuch as the recourse to new fatty materials for the purposes of admixture may have a serious dietetic meaning for the public at large. To change our source of fatty foods from the cow to the cocoanut appears to us to be a policy which should not be left in the hands of manufacturers; the matter should be referred first to physiological authority. We have heard of a specimen of milk showing an excellent proportion of fat, which, however, on careful analysis was shown not to be milk fat at all, but foreign vegetable fat. We desire assurance that milk in which the natural fat has been replaced by a "hydrogenised oil" is physiologically equal to the normal mammalian secretion. Generally speaking, physiologists assert that the animal fats have a higher nutritive power than those derived from vegetables—suet, butter, and cream being regarded as the most serviceable of all. We have no evidence that this assertion has been controverted by scientific authority, and until that is the case the question of the suitability of the vegetable fats for human consumption or of their fitness to replace animal fats on all counts must be regarded as an open one.

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[1] Fatty Foods, their Practical Examination. By E. Richards Bolton, F.C.S., and Cecil Revis. London: J. and A. Churchill. 1913. Pp. 371.

Annotations.

"Ne quid nimis."

THE INTERNATIONAL CONGRESS OF MEDICINE.

THE Seventeenth International Congress of Medicine will be held in London this year from August 6th to 12th, inclusive, under the patronage of H.M. the King. H.R.H. Prince Arthur of Connaught has graciously consented to open the Congress as the representative of His Majesty. The opening meeting will be held in the Albert Hall at 11 A.M. on Wednesday, August 6th. The last meeting of the Congress in London took place in 1881, when Sir James Paget was president. This year the president is Sir Thomas Barlow, and the treasurers are Sir Dyce Duckworth and Mr. G. H. Makins. Sir Alfred Pearce Gould is chairman of the Executive Committee, Sir Henry Morris chairman of the Finance Committee, Sir Lauder Brunton chairman of the Reception Committee. There is also a Ladies' Committee, of which Lady Duckworth is chairman. The central office of the Congress will be located in the Albert Hall. The sectional meetings will be held in rooms in the University of London, the Imperial College, the Royal School of Science, the School of Art, and the Central Technical College. These bodies have generously placed their buildings, which are all close together in South Kensington, at the disposal of the Congress. The Royal College of Physicians, the Royal Society of Medicine, St. Thomas's Hospital, the Royal Army Medical College at Millbank, and the Royal Dental Hospital are also offering accommodation for sectional meetings. The Students' Union of the Imperial College will serve as the men's club, and the authorities of Alexandra House have kindly lent rooms for a ladies' club. There are in all 26 sections and subsections. Their sessions will be held in the morning and in the afternoon. The morning sessions will be devoted to discussions on fixed subjects, which will be introduced by eminent medical men from every part of the world, who have been specially invited for the purpose. The invitations have been very generally accepted, and there have been few disappointments. There seems no doubt that the discussions will be of great interest and importance. The work of the several sections will be noticed in future issues. Five general addresses have been arranged. These will be delivered by Professor Chauffard (Medicine), Professor Harvey Cushing (Surgery), Professor Ehrlich (Pathology), Mr. W. Bateson (Heredity), and the Right Hon. John Burns, M.P., President of the Local Government Board (Public Health). These will be delivered in the Albert Hall, where also will be situated the central offices of the Congress. It is estimated that there will be about 5000 medical men and 2000 ladies attending the Congress. The organisation of the Congress has been going on for nearly three years. It will give some idea of the magnitude of the task to state that it has taken a complete year to arrange the *personnel* of the various committees, and another complete year to settle the programme of the discussions in the sections. The latter was issued on Sept. 30th of last year.[1] There are several discussions for which two or more sections are combined. At the present time the reports drawn up by those chosen to introduce the discussions are being received and set up in type. It is hoped that all these reports, which will form the basis of the discussions, will be printed and bound as a separate volume for each section before Congress opens. A second volume for each section will be published subsequently containing the speeches delivered and the independent papers presented at the Congress itself. A circular will be issued on April 30th giving information on travelling facilities both to and in London, on hotels and boarding-houses, on the location of the various sections, and on other points likely to be useful to members. Early in June the final programme of the scientific business will be published, which will include the list of independent papers accepted by the sections, and the names of intending speakers. The office of the Congress is at 13, Hinde-street, W., where information may be obtained by applying to the general secretary. Subscriptions to the *General Fund of the Congress* should be forwarded to the treasurers of the Seventeenth International Congress of Medicine at the same address. It should be borne in mind that the membership subscription of £1 only suffices to meet the expenses of producing the volume of Transactions subsequently delivered to each member. The entire cost of organisation and conduct of the meeting has therefore to be provided for by private subscriptions to the general fund. A list of the subscriptions already received will be published shortly.

THE HOSPITAL WITH A MEDICAL SCHOOL.

IN an annotation which we published recently, dealing with the subject of ventral fixation of the uterus, the following sentence occurs: "We have always thought that the best test of the legitimacy, if we may so term it, and necessity for any operation is the relative frequency with which it is performed by the surgeons attached to a large general hospital with a medical school—that is, in those conditions in which competent and honest criticism is not likely to be lacking." This sentence has been made the subject of forcible criticism by a well-known London surgeon, whose desire to withhold his name is quite justified by the feeling that, not being on the staff of a hospital with a school, his words might be thought to be due to some feeling of resentment or disappointment. With regard to the particular operations under discussion or whether certain enthusiasts perform them with undue frequency (although strongly of the opinion that many patients are sufferers in this respect), he says little or nothing, his objects being to direct attention to the particular sentence quoted above. "Is not the writer," he asks, "rather overwhelmed by the importance of a position at a teaching school which has apparently narrowed his surgical horizon, and is he justified in claiming that the best test or criterion of the legitimacy or otherwise of any operative procedure is whether it is performed at a large general hospital with a teaching school? The reason adduced for this claim is that honest and competent criticism is not likely to be lacking." Taken from its context the sentence which has given rise to his communication appears to reflect in an unjust and unnecessary manner upon the numerous institutions which *do not* possess medical schools, but although the wording employed is not fortunate this was not the intention of the annotation. It is hardly necessary to point out that many of the advances of surgery in all its departments have resulted from the work in special hospitals without teaching schools. And it must be allowed that over-enthusiastic operators are to be found in large general hospitals with medical schools, in spite of any controlling influence which may exist. But the particular influence referred to was not the presence of the students. Criticism from the students who may, as our correspondent suggests, "naturally consider their teacher in the light of a king who can do no wrong," would not be of any help to a surgeon in deciding upon the employment of a particular procedure; but the criticism of colleagues in a large general hospital is always of the greatest value. All the numberless questions, medical, surgical, obstetrical, and biological, which may affect the advisability of adopting frequently some particular routine, can be debated with catholicity in a general hospital, while at a special hospital a narrower outlook must be taken. It is not the presence of the students that supplies the valuable collaboration which an operator may get at a large general hospital, but the presence of colleagues not engaged in the same special work. We are obliged to our correspondent for the courteous way in which he has brought the subject to our notice. The truth is that the general hospital and the special hospital alike have their places in our scientific evolution.

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[1] THE LANCET, Oct. 19th, 1912, p. 1116.

THE UDAL TORRE SANATORIUM INCIDENT.

THE power of exacting strict discipline is so essential in a medical superintendent of a tuberculosis sanatorium that without it no amount of professional ability, experience, and industry will produce their full effect. At a time when sanatorium treatment was within the reach of the affluent alone this fact was conspicuously apparent, for the most successful medical superintendents were the martinets of more than military rigidity. There are plenty of reasons for this state of things—reasons which any intelligent observer of the interior economy of a sanatorium can formulate. And necessary as discipline is within a sanatorium where the patients are gently nurtured and more or less well educated, it is indispensable where many of them are neither. That is not to say that the same methods of maintaining authority will answer in the two cases. Far otherwise in fact; a greater fund of tact, and all that is summed up in the word character, will be required in dealing with the half-educated than with those who can signify their displeasure by withdrawing a patronage which is materially important. Now of all the "difficult" people to manage in a sanatorium, we can conceive of none so likely to get out hand as insured persons of Welsh nationality, especially when transferred to districts far from their friends and the land of their fathers. Docility was not exactly to be expected of all the patients at Udal Torre; but it would seem that the much talked of revolt was largely a matter of impulse rather than of preconcerted rebellion. A government inspector has investigated the whole matter, and his report shows that most of the alleged grievances were fanciful if not imaginary, though some of them are admitted to have had foundation. The report has evidently been drawn up after a full and fair examination, and may be accepted, we hope, as disposing effectively of the major criticisms which were levelled at the management of the sanatorium. Still, the fact remains that some of the patients got out of control; and with the multiplication of sanatoriums far and near in the land, it is not improbable that similar incidents may recur. The personality of the superintendent must always remain the best safeguard against indiscipline. But there is no way of assessing that elusive quality by examination tests; and no way of acquiring it, though no doubt a military training can help to cultivate it. In the nature of things, therefore, no rules can be laid down for the preservation of the right tone in a sanatorium. To quote a single instance in point, there is a system at a certain very well managed working men's sanatorium of serving the medical officers' table (and that of all the staff, in fact) with identically the same food as the patients themselves get. This effectively stifles baseless complaints about the kitchen department, for the patients can see the doctors' food taken from the same vessels as their own. Yet we doubt whether the plan is really sound, and certainly a forceful superintendent can get along without adopting it. So it is with every detail of sanatorium management: a strict disciplinarian can make his own rules, and no ready-made code will suffice to replace a strong personality at the head of affairs. If that lesson sinks a little deeper in, the storm in a teacup at Udal Torre may have done more good than harm.

IS YELLOW FEVER STILL ENDEMIC IN JAMAICA?

TIME was when yellow fever was almost continuously present in Jamaica, bursting out in epidemic form when any new body of troops or warships arrived at the island, but generally smouldering on in endemic fashion between the outbreaks. At the end of the eighteenth century the ravages of this disease were very great, the chief sufferers being the susceptible subjects who had lately reached the colony from Europe. About this time, it is stated by one writer of repute, there were "cut off" in four years among the European garrison no fewer than 3500 men, "chiefly from yellow fever." In recent years a great change has been wrought, and the malady has since been regarded as no longer existent in Jamaica. The last recorded outbreak occurred in 1897, when 76 fatal cases were certified, with nine more in the following year. From 1898 to 1912 only 10 deaths have been attributed to yellow fever in the island, the last fatal case being registered in 1904. In 1910 the late Sir Rubert Boyce, when writing upon yellow fever in the West Indies, said that vast improvements had been made in sanitary administration, with the result that endemicity of yellow fever in Jamaica had been stopped. The whole question has now, however, been re-opened by a report[1] presented to the Colonial Office by Captain T. J. Potter, R.A.M.C., who at the instance of the Jamaican Government made a special inquiry into "vomiting sickness," a name given by the natives to illness in which vomiting is a prominent symptom. The term, it may be added, has of late years been used even by local practitioners to indicate a febrile ailment in which vomiting is a leading feature. Captain Potter's inquiry showed that the so-called "vomiting sickness" occurs largely among the black population, and especially among black children, and that it is often fatal. During the first three months of 1911 he personally investigated upwards of 70 cases, some of which, however, were found to be instances of other diseases, such as cerebro-spinal fever, food poisoning, and the like; but there remained 38 cases, 21 of which proved fatal, that could not, in Captain Potter's opinion, be anything else but yellow fever. His conclusions were based, it appears, upon the clinical characters of the illness, and supported in certain instances by the post-mortem appearances. He therefore asserts that there is no justification for the use of the term "vomiting sickness"; it is not a clinical entity, and many of the cases so designated are actually yellow fever. One of the popular alternative names in Jamaica for "vomiting sickness" is "black vomit," a term closely identified with yellow fever, "vomito negro" being the usual name for that disease among the Spanish-speaking inhabitants of the shores of the Gulf of Mexico and elsewhere. As showing the amount of this so-called "vomiting sickness" that prevails in Jamaica, Captain Potter obtained a return which stated that during the first five months of 1911 no fewer than 223 cases came under observation, 126 of them being referred to one parish. Some of the facts collected by Captain Potter vary somewhat from the experience of other observers. The usual yellow fever season is said to be from April to September, but the cases recorded above by Captain Potter were mostly prior to that period of the year. Again, many authorities state that endemic yellow fever among the coloured races is generally a mild disease, especially in children; but we gather that in Jamaica many of those who are attacked are black children, and that a number of them die. On the other hand, there are some recorded facts which appear to support his views. For example, in an army departmental report published in 1908 reference is made to the occurence of a local five to nine days' fever in Jamaica, its leading characters being severe frontal headache, vomiting, an icteric tinge of the skin and conjunctivæ, and albumin sometimes found in the urine. Paratyphoid fever had been excluded, as also papataci fever, there being no phlebotomus flies on the island. It is unfortunately true that the symptoms and post-mortem appearances of yellow fever vary greatly in individual cases, and that none are sufficiently constant to be regarded as pathognomonic. So that the definite diagnosis of yellow fever, and especially among a black population, is attended with extreme difficulty. Up to the present time the specific organism of the disease has not been satisfactorily identified and isolated, so that bacteriological confirmation of the diagnosis cannot be maintained. It may be mentioned that the paraplasma flavigenum discovered by Dr. Harald Seidelin is being tested by other experts, but it is too early to say as yet that it is the parasite of yellow fever; if his claims be substantiated an enormous advance will be made and the diagnosis greatly aided. The opinion that yellow fever is still endemic in Jamaica has not been allowed to pass unchallenged by the medical men of the colony. In particular, Dr. Angus G. Macdonald,[3] medical officer of health of Kingston, the capital of the island, has with some vehemence disputed the conclusions of Captain Potter, dwelling particularly upon the absence of any typical examples among the alleged yellow fever cases investigated in the first quarter of 1911. He also suggests that possibly "vomiting sickness" may be due to a tick infection introduced into Jamaica since yellow fever disappeared. In this connexion he urges further investigation by local experts. It was obvious that so important a dispute could not be left in this undecided state, and it is satisfactory to learn that the Colonial Office has already ordered a further inquiry to be conducted by a commission of experts, and that bacteriological investigations will also be carried out on the spot.

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[1] This report is published in the recently issued report of the Advisory Committee for the Tropical Diseases Research Fund for the year 1912. H.M. Stationery Office. 1913. Price 2s. 3d.

A FOOD CONGRESS AT GHENT.

AN international exhibition is to be held in Ghent this year, and the occasion has suggested the convening of an international congress on questions relating to food adulteration. The date of this congress has been fixed for the first three days of August. The regulations under which the proceedings are to be conducted have been issued and an agenda of the subjects for discussion formulated. It is the view of the organisers that subjects should be approached not so much from a scientific as from a social standpoint. Amongst the topics which have already received a place for discussion are the protection of food substances from dirt, the regulation of the manufacture of table waters, the adoption of official methods of analysis for foods, the control of the sale of milk, the desirability of including in any scheme of education instruction about the nutritive values of foods, the question of the sale and production of foods in places where there may be persons suffering from infectious disease, the control of the use of preservatives, and the enforcement of regulations providing for the washing of glasses in public-houses. The work of the whole congress is divided into four sections: (*a*) chemistry, (*b*) hygiene, (*c*) popular education on food and cognate subjects, and (*d*) legislation. From a list which has reached us the congress has already received a distinguished patronage, including Government officials and members of the learned professions.

COXALGIA IN CHRONIC APPENDICITIS.

IN the *Maryland Medical Journal* for February Dr. Thomas R. Brown has discussed a symptom of chronic appendicitis which has received little attention—coxalgia. As chronic appendicitis is often attended by slight local symptoms, its diagnosis is difficult and depends on the correlation of many signs and symptoms, each of comparatively slight importance. Coxalgia occurs in a certain proportion of cases and is of great value in the diagnosis. The nature and extent of the symptoms of chronic appendicitis depend somewhat on the lesions in the appendix, which may take the form of adhesions, obliteration of the lumen, erosions, torpid ulcers, or cysts, but far more on the direction in which the appendix points, whether towards the gall-bladder, urinary bladder, or thigh, and on the association of the disease with splanchnoptosis, which Dr. Brown has found very common. There may be no local symptoms, and a clinical picture typical of neurasthenia may be presented or one of gastric or intestinal dyspepsia, or cholelithiasis or cholecystitis may be simulated, or the main symptom may be pain in the right hip or pain on micturition, or a combination of both. In a series of 20 cases of chronic appendicitis diagnosed as such and verified by operation Dr. Brown found that in three the main symptom was pain in the right hip (appendicular coxalgia). In one the pain was so intense and long standing, and so definitely related to exertion, that tuberculous coxitis was suggested. In each of the three cases there was splanchnoptosis of the highest grade, and the appendix, cæcum, and a portion of the transverse colon were tightly bound down to the abdominal wall and pelvic floor. In chronic appendicitis coxalgia may be absent altogether, or it may be absent when the patient is at rest and noted after walking and increased by flexion of the joint. The question arises, How can the coxalgia of chronic appendicitis be distinguished from that of latent tuberculosis of the hip-joint? In both there may be slight remittent pyrexia, rarely reaching 100° F. In the differential diagnosis skiagraphy after administration of bismuth is of paramount importance. In chronic appendicitis it shows *binding down* of the intestines in the cæcal region with sluggish motility and marked bismuth retention, the hip-joint being normal. Blood examination also is useful. Dr. Brown found a leucocytosis of from 10,000 to 16,000, though rarely exceeding 13,000, with neutrophiles from 75 to 85 per cent., in chronic appendicitis, while leucopenia with relative mononuclear increase occurred in tuberculosis. In one case the pain in the hip was so marked that several surgeons diagnosed coxalgia secondary to relaxation of the sacro-iliac joint. However, skiagraphy showed dense adhesions binding down the appendix, cæcum, and ascending colon to the lateral and posterior peritoneal surfaces. The abdomen was opened and adhesions over the head of the colon were divided. The base of the appendix was closely adherent to the cæcal wall. The appendix was directed posterior to the cæcum with its tip over the pelvic brim. It was found densely adherent throughout its whole extent, the tip being acutely flexed and bulbous. The ileum in its last three inches was kinked by a band of adhesions drawing it posteriorly and towards the cæcum. The appendix was removed, the adhesions about the ileum were released, and the resulting raw surface was covered as far as was possible without reproducing the kink in the ileum. An interesting point is the frequent association of chronic appendicitis without definite local symptoms with general splanchnoptosis. In considerably more than half of the 20 cases a greater or less descent of the abdominal organs was found, and in many this was very pronounced, so that the cæcum and a large portion of the transverse colon were below the pelvic brim. Whether the chronic appendicitis is primary or secondary to the ptosis of the intestines with the associated interference with the circulation and intestinal stasis, or whether the latter leads to a local peritonitis in which the appendix is involved, cannot be said. Not only was coxalgia the predominant symptom in three of the 20 cases, as stated, but it was present in many of the others. Hence coxalgia, especially if associated with splanchnoptosis, should suggest the possibility of chronic appendicitis with ileo-cæcal adhesions as the cause, and the case should be investigated on the lines described above. As to the cause of the coxalgia, it appears to be due to the mechanical effect of the dense adhesions. The direction in which the appendix points and the nature, extent, and position of the adhesions seem to be the determining factors whether coxalgia occurs or not.

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[3] Is Yellow Fever Endemic in Jamaica? A paper read before the Jamaica branch of the British Medical Association in December, 1912. Presented to, and ordered to be printed by, the Mayor and Corporation of Kingston.

SIR THOMAS BROWNE ON SUPERFŒTATION.

THE report that the wife of a working man at Furness has given birth to children at an interval of six weeks between the two parturitions would not have appeared at all incredible in the seventeenth century. In his "Enquiries into Vulgar and Common Errors" Sir Thomas Browne stated his belief that hares were prolific through a habit of superfœtation. "An higher providence of nature," he avers, "especially promotes the multiplication of hares by superfœtation—that is, a conception upon a conception, or an improvement of a second fruit before the first be excluded, preventing hereby the usual intermission and vacant time of generation." Aristotle, Herodotus, and Pliny refer to this alleged fact, and "we have often observed," says Browne, "that after the first cast, there remain successive conceptions, and other younglings very immature, and far from their terme of exclusion. No man need question this phenomenon in hares, for the same often occurs in the case of women." "Although it be true," continues our author, "that upon conception the inward orifice of the matrix exactly closeth, so that it commonly admitteth nothing after; yet falleth it out sometime, that in the act of coition, the avidity of that part dilateth itself, and receiveth a second burden, which if it happen to be near in time unto the first, they commonly doe both proceed unto perfection, and have legitimate exclusions, periodically succeeding each other. But if the superfœtation be made with considerable intermission, the latter most commonly proves abortive; for the first being confirmed, engrosseth the aliment from the other." Julia, probably the wife of the young Marcellus and afterwards of Agrippa, and of Tiberius, is cited by Browne as a person fully cognisant of his theory of superfœtation. "The project of Julia seems very plausible, and that way infallible, when she received not her passengers before she had taken in her lading." Her lovers were Sempronius Gracchus and Julius Antonius, of whom Tacitus has something to say in his Annals. We, of course, mean no sort of disrespect to the mother in Furness when making mention of the notorious Julia.

POISONS IN DOMESTIC BOTTLES.

A CIRCULAR has been issued to sanitary authorities by the Local Government Board directing attention to the Order in Council prescribing that as from May 1st, 1913, all liquid preparations sold as carbolic or carbolic acid or carbolic substitutes or carbolic disinfectants containing not more than 3 per cent. of phenols shall be substances to which Section 5 of the Poisons and Pharmacy Act, 1908, applies. The Local Government Board have recently had under consideration the danger to life attending the distribution of poisonous liquid disinfectants—e.g., preparations of carbolic acid—in receptacles such as beer-bottles, ordinarily used for liquid intended for consumption. Instances have occurred of omission on the part of local authorities to observe, in the distribution of such disinfectants, the provisions in regard to the shape and marking of bottles made applicable to the retail sale of liquid poisons by the Poison and Pharmacy Act, and by regulations made by Orders in Council. It is pointed out that the precautions which are enforceable when carbolic acid or a liquid preparation containing it is sold should be observed generally in the gratuitous distribution of disinfectants by a local authority, or in the use of such by their officers, whether the preparation contains carbolic acid or any other poisonous constituent.

RUPTURE OF THE TENDON OF THE BICEPS DUE TO MUSCULAR ACTION.

In the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of Feb. 9th Professor H. L. Rocher has reported a case of an unusual accident—rupture of the tendon of the biceps muscle due to muscular action. A printer, aged 46 years, while trying to lift a lithographic stone weighing 150 kilogrammes, suddenly felt something crack in his right arm, heard a sound like that of the tearing of cloth, and had the sensation of something running up the arm. He at once lost power in the arm as if it was broken. He supported the elbow at an acute angle with the left hand, because if he tried to extend it he felt acute pain. Eight hours after the accident he came to hospital. On examination he was a muscular man, with a swelling of the size of a mandarin orange in the middle of the arm on its anterior aspect. The swelling felt like muscle at rest and was moveable in all directions, but especially transversely. On active flexion of the elbow it ascended towards the shoulder and became more globular and firmer, without, however, attaining the firmness of muscle in a state of contraction. Below the swelling the forearm was abnormally flat as far as the elbow-joint. There was no ecchymosis or hæmatoma. All passive movements of the arm were normal, and only active flexion of the elbow-joint was lost. Rupture of the biceps tendon was diagnosed, and immediate operation was decided upon. Under chloroform a median incision was made in the lower half of the arm. The aponeurotic sheath of the biceps was intact. It was opened and found completely empty; the tendon, floating about, could just be perceived above. On drawing it down the muscular globe formed by the retracted biceps was found lodged in the upper part of the sheath and free from any tear. After careful examination of the bicipital tuberosity of the radius it was found that the tendon was not ruptured in its continuity, but torn off the bone. The end of the tendon was a little spread out.

It was cleanly torn off, and had not carried with it any fragment of bone. The tendon was reimplanted by means of three silk sutures which were passed through its extremity, and as low as possible through the aponeurotic sheath which accompanied the tendon to its insertion into the radius. The anterior aspect of the arm then assumed its normal appearance. The opening in the biceps sheath was united with catgut, and the wound in the skin was closed. The limb was supported with the elbow flexed at an acute angle. Union by first intention took place. The arm was kept in a sling for six weeks, so as not to stretch the scar in the tendon. Then massage and electrical treatment were adopted. Six weeks later the biceps, which had diminished to half its normal size, had regained three-quarters of its volume, and its power was progressively returning.

THE POTATO.

THOUGH the poisonous alkaloid and glucoside known as solanine is a normal constituent of the healthy potato, references to toxicological literature fail to furnish any decisive evidence that the tuber has caused any widespread or serious illness. In these days, when alarming symptoms of poisoning may sometimes be traced to food in which, for some mysterious reason, the poisons known as ptomaines have elaborated themselves, it is just as well when searching for the *fons et origo mali* not to forget the potato, for under certain conditions solanine may be found in unusual quantity, and this alkaloid may set up the usual disturbances which are characteristic of an irritant poison. In the normal potato the amount seldom exceeds 0·01 per cent., but this may easily be exceeded in the diseased potato. Sprouting potatoes seem to contain a more than usual quantity of alkaloid, while it is also more likely to be present in the immature potato. Thus the potato residues, consisting probably of sprouting potatoes, from a distillery have been found to be responsible for the occurrence of poisonous symptoms in cattle, and solanine was separated from the mash by analysis. It appears to occur in larger proportion in the peel, so that there may be reasons for avoiding the "jacket." Though not very soluble in water it is probable that boiling removes some of the alkaloid. As we have stated, however, there is little in toxicological records which amounts to a serious indictment against the potato, and the small doses which occur are stated by some authorities to be an excellent sedative, more efficacious in long-standing neuralgia, especially when neuritis is present, than either antipyrine or antifebrin. We have little doubt that oftentimes a judicious diet of potatoes would be of greater benefit to a good many self-physicking people than a dose of some antipyretic substance which they regard as adapted to relieve all headaches whatsoever their origin.

A TYPHOID CARRIER STATE IN RABBITS.

THE importance of the part played by typhoid carriers in the spread of the disease among mankind is now generally recognised, and consequently any light that can be thrown on this condition by experimental research, and especially anything tending to indicate the best method of treating such carriers, is of much clinical interest. In a paper recently published in the *Journal of Medical Research*[1] Dr. John Anderson Johnston records some results obtained in artificially producing in rabbits a "carrier" condition. He inoculated these animals intravenously with a suspension of typhoid bacilli in saline solution and then examined their blood and fæces for signs of infection. The organisms began, as a rule, to appear in cultures from these materials in from seven to ten days; indeed, in two instances a diarrhœal affection started within two days and the bacilli were found in the stools. The rabbits were then vaccinated with dead cultures of the organisms, and the bacilli disappeared within a space of 30 to 60 days from the original inoculation. Of seven vaccinated animals which came to necropsy five were entirely negative with respect to cultures of these bacilli, while the two from which they were obtained had both died within a short time of being treated. On the other hand, of 11 vaccinated animals all but one showed the presence of bacilli, though five did not harbour them in any part except the gall-bladder. Similarly, in two animals in which the bacilli had disappeared, so far as cultures from the blood and fæces went, during life, puncture of the gall-bladder gave positive results. It is thus shown that in the rabbit, as in man, the gall-bladder is a seat in which the organisms may persist when they have elsewhere vanished. Further, in two animals in which the bacilli could no longer be found in the fæces the administration of a dose of ox bile, which caused an attack of diarrhœa, was followed by their reappearance, just as catarrhal conditions of the bowel may in man give rise to renewed excretion of typhoid bacilli in the stools. From these experiments it would seem that vaccination is indicated in all cases in which a carrier state exists in human beings, and that careful examination of the fæces should be made in all cases of typhoid fever, just as the throat is swabbed after an attack of diphtheria, to ascertain that the organisms have ceased to be excreted by this route and that the convalescent is no longer, so far as can be discovered, a source of danger to others.

Dr. William Brown will give a public lecture on Abnormal Psychology at King's College (University of London) on Wednesday, April 23rd, at 4 P.M. Professor W. D. Halliburton will be in the chair.

FREUD'S THEORY OF DREAMS.[1]

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I.

WHEN the secretary of the Listerian Society very kindly invited me to read a paper on something of medical interest connected with the science of psychology, Professor Sigmund Freud's psychiatrical system at once occurred to my mind as the most suitable theme for such a discourse. Not only are his views winning ever wider acceptance among leading psychiatrists of all nationalities at the present day and justifying themselves by practical results, but they are also very good illustrations of the help which strictly psychological methods of thought may bring to the science and art of medicine.

Theoretically the connexion between psychology and medicine must be a very close one. Only on the theory of materialism can its importance be denied. According to this view psychical process is merely the result of physiological process occurring in different parts of the cerebral cortex. All mental disease would therefore be merely the effect of cerebral disease, and consequently attempts to cure by mental methods would involve the absurdity of treating the symptoms of the disease and not the disease itself. But by far the greater number of thinkers qualified to pass a reasoned judgment upon this question of the relation of mind to brain agree in rejecting the materialistic view. The two other alternative theories of the relation—viz., interactionism and parallelism, both give great scope for the use of mental methods in therapeutics. This is obvious in the case of interactionism, according to which the mind is an entity distinct from and partially independent of the brain, exhibiting laws of action not entirely identical with the laws of brain activity But it is equally true for parallelism The theory of psycho physical parallelism states that there is a point to point correspondence between changes in certain parts of the cerebral cortex (and possibly other parts of the brain) and changes in consciousness For every occurrence in consciousness there is some corresponding physiological change occurring in some part of the brain There is, however, no relation of causality between the physical and the mental series of events Rather are these series to be regarded as different sides or aspects of the same real process But if this be so, change in the real process can be produced from without—i e , by external agency—from either of its two sides, the physical or the psychical, indifferently Mental disease is also cerebral disease, but it is quite as legitimate to attempt to produce a change on the mental side by mental means as to produce a physical change by physical means A mental change, *eo ipso*, involves or brings along with it a corresponding physical change in the brain and *vice versâ*

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[1] Journal of Medical Research, November, 1912, vol. xxvii., No. 2, p. 177.

[1] A paper read before the Listerian Society at King's College Hospital on Jan. 21st, 1913

Whichever theory we adopt, one thing at least is clear—namely, that our knowledge of mental processes is very much more precise and complete than our knowledge of the corresponding processes in the cerebral cortex, and explanations of mental disturbances in terms of memory ideas, imaginations, desires, and wishes are really more logical than those in terms of hypothetical nerve cells and nerve fibres so beloved by some physiologists It is quite possible, and on the parallelist hypothesis it is more than probable, that ultra microscopical changes in the cerebral cortex accompany all cases of so called functional mental disease, where gross lesions of the brain have not hitherto been demonstrated, but ignorance of them need not deter us from formulating psychological theories which may justifiably claim to explain the changes that *are* observable—viz , the mental disturbances of the patient

It may cause surprise to some of my hearers that I have chosen Freud's Theory of Dreams as the special subject of my paper, but I have done so for very good reasons In the first place, it is a fact, emphasised again and again by Freud himself, that this theory is the central core of his whole system of psychiatry, and the one that during the lapse of years he has found least reason to modify It is through a study of dreams that we can alone arrive at an adequate and direct appreciation of the nature of the *unconscious* and of its significance for the conscious mental life In the second place, the now famous method of "psycho analysis," introduced by Freud and elaborated into a definite technique by Jung, is most easily understood and most convincingly justified in Freud's scheme of dream interpretation, in which it plays a prominent part Finally, dreaming is a normal function of the mind and may therefore be safely discussed by a psychologist who can lay claim to no first hand knowledge of pathological cases Yet if Freud's theory be true that dreams are formed according to the same fundamental laws that produce the symptoms of hysterical patients, a careful study of the former must add very considerably to the intimacy and effectiveness of our knowledge of the latter A psychologist is only entirely within his own domain when he is face to face with facts of consciousness These he can only observe within himself, and his dreams (together with what is added to them by psycho analysis) may therefore give him an insight into the nature of hysteria which according to any other theory of the disease must be denied him so long as he remains normal

The outlines of Freud's theory of dreams are well known Every dream is the fulfilment of some wish In the great majority of cases the wish is one that has been repressed by the waking consciousness, and its fulfilment in the dream is disguised according to rules that are both complicated and diverse It is for these reasons that the general law has so long escaped notice, and scientists have been so ready to deny all significance to dreams This state of things is inevitable so long as attention is restricted to the dream [illegible] constitutes its meaning, and when discovered by the method of psycho-analysis is found invariably to be the fulfilment of some wish The manifest content is made up of memories from the past life of the dreamer, patched together in apparently quite random order and according to the most superficial laws of association The laws of rational connexion, especially those of causation, which dominate waking consciousness, seem to be in abeyance, and in their place the only laws of connexion observable are those of association by contiguity and association by similarity As a general rule the memories most commonly aroused are those of the "dream day" (the day before the dream) and those of early childhood Memories of the dream-day form part of every dream without exception Actual bodily disturbances, either of the external sense organs or of the internal organs are, when not too intense, incorporated in the dream though in a disguised form In this way every dream may be regarded as fulfilling at least one wish—viz , the wish to go on sleeping If these actual stimuli were recognised for what they are the dreamer would no longer be asleep but awake, and this is what happens when they become too intense Thirst arising during sleep may produce the dream experience of drinking water in huge draughts In this way are fulfilled the two wishes, to continue sleeping and to drink Other bodily needs arising during sleep may receive imaginary satisfaction in the same way Instances like these illustrate very clearly the function of dreams in acting as the guardians of sleep

Freud relates an amusing story of a medical student who was very fond of his bed, and could only with the greatest difficulty get up in time for his work at the hospital One morning on being called by the maid, who shouted through the door, "Get up , you must go to the hospital," he half awoke, and then proceeded to dream of a ward in the hospital in which he found himself lying upon a bed with a card hung over the head of it stating his name, age, and occupation Remarking to himself "Since I am already in the hospital I do not need to get up and go there," he turned over and continued his sleep

Numerous instances may be quoted in which the fulfilment of a wish appears in the dream in clear and undisguised form The dreams of young children are almost invariably of such a nature Desires, of which the satisfaction has been denied them during the day, again and again appear as fulfilled in the dreams of the following night This kind of evidence is obviously of the highest importance for the theory of dreams, since the child's consciousness shows the laws of mental process in their simplest and most fundamental forms The wish fulfilments of adults are as a rule expressed somewhat less directly, even when they do not belong to those unconventional and consequently "repressed" forms which will engage our attention more fully presently Recently, while working for a medical examination which it was most important that I should pass at the very first opportunity and for which I had been able to find very little time for preparation, I dreamt one night that someone showed me the examination paper, although it was some days before the date of the examination Not until some time after the dream did I realise its true significance and its connexion with my intense desire to pass On another occasion, while anxiously waiting for the appearance of certain reviews which I had written for one of the daily newspapers, I dreamt that I received yet another batch of books from the same source This dream was evidently a slightly indirect fulfilment of my wish that the other reviews of mine had not miscarried and would shortly appear

Instances of such clear wish fulfilments in dreams must be frequent in everyone's experience, and it may with some degree of plausibility be objected that they do not necessitate any theory more elaborate than the one most generally accepted—viz , that dreams are simply the revival, in chance order, of memories aroused during the condition of sleep For the imagined fulfilment of wishes may reappear as memories, just as other forms of consciousness do Freud, however, does not admit this, since he finds that every kind of dream, whatever the nature of the memories which unite to form its "manifest content," shows under the treatment of psycho analysis a clear reference to the fulfilment of a wish or wishes, which often gives the dream an entirely new aspect

The method of psycho analysis is simply a method of free association The subject whose dream is being interpreted is asked to adopt the mental attitude of meditative expectancy, and in this frame of mind to consider the parts of the dream one after another and say just what ideas spontaneously occur to him in connexion with each. It is essential to the success of the method that he should rigidly keep in abeyance any tendency to criticise, modify, or reject any of these ideas as they arise, and that he should make a faithful record of all of them, however absurd or objectionable some of them may appear to be. The ideas which thus arise by free association will be found all to converge to one system of ideas concerned with the fulfilment of a wish. This system of ideas is the "latent content" of the dream, or the "dream-thought," and gives the dream its meaning and its *raison d'être*. The wish involved in it is one that is not in harmony with the conventional and ethical ideas of the developed personality, and is therefore entirely repressed during waking consciousness and can only attain realisation in the dream consciousness of sleep in underhand and roundabout ways which have still to be described.

The repressing factor in the waking consciousness is named by Freud the *endopsychic censor*. The term is somewhat figurative, but lends itself well to the purposes of vivid description. In sleep this censor is still active, though not to the same degree nor with the same watchfulness. If only the repressed wish can disguise itself sufficiently, it may succeed in slipping past him unnoticed, and so rise into the half-light of dream consciousness. Before discussing in detail the various ways in which the wish may accomplish this disguise, and which Freud classifies under the general heading of *Traumarbeit*, or dream work, I will give a description of one of his own dreams, together with a summary of its psycho-analysis.[2] I must, however, first summarise his preliminary explanation which alone makes the dream intelligible.

Freud heard in 1897 that two professors of his university had proposed him for the position of professor extraordinarius, election to which he doubtless greatly desired. After receiving this news, and on the day before the dream, a colleague, who had for some time waited without result for the success of his own nomination to a similar professorship, visited him and told him that he had at last gone to a high authority about the matter and had learnt that his non-success was due to his religion and nationality. Freud suffered from the same disadvantages, and so might on this score draw but a discouraging conclusion from the news as to the probable fate of his own nomination. "On the morning after this visit," writes Freud, "I had the following dream ...... I. Friend R. is my uncle. I feel tender affection for him. II. I see his face somewhat altered before me. It is, as it were, drawn out lengthwise, a yellow beard which surrounds it stands out with exceptional clearness."

At first Freud was inclined to dismiss the dream as an absurdity, but remembering that in the case of his own patients this tendency often indicated that the meaning of the dream was a disagreeable one and such that the person was loth to admit even to himself, he proceeded to analyse it, pondering over it sentence by sentence and noting what ideas occurred to his mind while doing so. It then became clear to him that the face was, as it were, a composite photograph of the friend of the previous evening's conversation and one of his uncles, who had been unfortunate enough to come within the arm of the law. His father was in the habit of attributing this uncle's downfall not to wickedness but to weakmindedness. Consequently the dream purports to say that his friend R. is weakminded or stupid, like his uncle. Further reflection brings to light the memory of a conversation with another colleague who had likewise been unsuccessfully nominated for professor and who attributed his failure to an accusation brought against him by one of his patients. The courts had dismissed the charge as entirely unfounded and malicious, but the incident could not fail to injure his prospects. The meaning of the dream is now clear. The uncle represents just those two colleagues of Freud who had been unsuccessful in their nominations for professorships. By disingenuously insinuating that one of them is stupid and the other a criminal the dream clears the way for the success of Freud's own nomination, since on these assumptions the fact of his religion need not weigh against him. The dream represents the *wish* that this might be the real state of affairs—a wish that Freud would not for a moment entertain in the waking state or even in manifest form in a dream.

The tender affection experienced in the dream still needs explanation, since it is much more pronounced than that which Freud had ever felt for his uncle or for his friend. Reflection shows that it does not belong to the latent content. It is directly contrary to this content and eminently adapted to hiding the full significance of the dream-thought from the dreamer himself. This indeed is its real purpose. By changing the appropriate feeling-tone of the latent content into its opposite the wish has succeeded in evading the censor and achieving its own dream-fulfilment.

Other ways in which the latent content may disguise itself are by transferring the feeling-tone from one part of the manifest content to another, by altering the emphasis of different elements in the manifest content, so that a prominent element corresponds to an unimportant part of the latent content, and conversely, and, above all, by the use of symbolism. This symbolism is, to some extent, different for different persons, and also for different nationalities, since it partly depends upon the chance associations of experience and upon the similarities of words representing different objects. But some symbols would seem to be common to the majority of people, especially in matters connected with sex. Sexual relations may be represented by walking up and down stairs, by flying, or by journeying in a train or other vehicle. Entering into water may symbolise, by opposites, the fact of birth. Hats and shoes in dreams often have reference to sex. Many other symbolisms are met with which are too obvious to need mention here. Freud records the case of a woman who dreamt that she saw her fifteen-year-old daughter lying dead in a box, in which psycho-analysis showed that the latent content of the dream was a wish dating 15 years back that the child might die before it was born. This is a good illustration of the way in which wishes may persist for years in the unconscious uninfluenced by later experience.

In Freud's opinion a very large proportion of the repressed wishes which realise themselves in the dreams of adults originate in early childhood. They are also, he thinks, predominantly sexual in nature, the sexual mental life of the child beginning much earlier than scientists have generally supposed. The sexual inclinations may find their earliest objects in the parents, and then undergo vigorous repression as the result of further development and education. These repressed wishes may show themselves later in dreams, or, when very strong and very firmly repressed, may give rise to more serious symptoms. The attraction is accompanied by feelings of hatred and jealousy towards the parent of the opposite sex. These are repressed in the same way and for the same reasons, and may in later life produce dreams of the death of the father or the mother, as the case may be.

The legend of Œdipus, who unwittingly marries his own mother, Jocasta, and, though guiltless in intent, pays the penalty for this unholy act, is a mythical representation of this general tendency in human nature. Freud would explain the mystery of Hamlet in the same way. Hamlet is unable to take vengeance on the man who has supplanted and murdered his father because he himself in his early youth had wished his father's death. The wish has been vigorously repressed and he is at present unconscious of it, but it still exists in his unconscious and produces the inhibitory effects depicted in the play. Freud considers that repressed wishes of this nature are the principal factor in the production of all the psychoneuroses.

If we bear in mind that children's ideas of death are very vague and in most cases correspond simply to "permanent absence," the theory is not so outrageous as it might otherwise seem to be. The "naturalness" of family affection has undoubtedly been greatly exaggerated by earlier thinkers, and the passions of hostility aroused within the family circle are often very fierce. As the children grow up these feelings generally disappear and make way for the more conventional and intellectualised forms of sentiment, but deep down in the unconscious recesses of their souls persist the traces of earlier conflicts.

It may be thought surprising that such an immoral wish as that of death should ever succeed in passing the censor and attaining to a dream-fulfilment. Two facts sufficiently explain it. In the first place the wish is the last in the world that we should ever consciously entertain, and for this reason the censor is unprepared for its appearance. In the second place the wish-fulfilment is accompanied in the dream by a feeling of intense sorrow which seems to receive a sufficient explanation in the anxiety for the person's welfare which the dreamer has genuinely felt in more recent times, especially during the dream-day, and which might be expected to persist as a memory in the dream. The real source of the sorrow is the fact that the censor has been overpowered.

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[2] See Traumdeutung, dritte Auflage, S. 100-104.

These considerations suggest the probable explanation of all forms of *anxiety dreams*, which are accompanied by pain, and seem therefore in such flagrant contradiction to the wish theory. Freud writes:—

> The anxiety dream only occurs when the censor is partly or entirely [illegible] *forms of painful feeling* (p. 195).

And again in another passage (p. 171), distinguishing two types of anxiety dreams:—

> On the one hand, the anxiety in the dreams may be a psychoneurotic [illegible]

I have quoted these passages in the author's words because they are so crucial for his whole theory both in its psychological and in its pathological aspects. For my own part, and on the basis of my own experiences, I find it very difficult to agree entirely with this explanation. It may not be special pleading, but it seems very much like it. Why this persistent and almost impertinent faithfulness to one idea? Are not fears just as primitive as wishes and just as capable of repression without annihilation? May we not broaden the basis of our explanatory system? Freud has considered these and other possibilities, and on the basis of experience rejects them. But it is difficult to see how experience can force us to the wish-explanation when the huge class of anxiety dreams require such complications of the theory before they can be brought into line with the others.

In this connexion I might mention a striking experience of fear-repression with persistence in the unconscious that happened to me about a year ago. One day while out hunting I had two bad falls in rapid succession, but in the excitement of the chase felt none of the organic disturbances of fear, much to my own surprise. That night I dreamt of the entire hunt from start to finish, but with the intensest fear. My heart felt literally in my mouth the whole time. Even now the feeling sometimes recurs at [illegible] feel nothing of it and have [illegible] am of this kind in terms of [illegible] ter part of the theory, the repression, is well illustrated by it. Freud's theory would fall much more completely into line with the views of modern psychology if in it he replaced "wish" by "emotional or instinctive tendencies." Examples of such emotional tendencies are fear, anger, self-assertion, self-abasement, and disgust, and systems of ideas tinged by these emotions may be on occasion driven from the main consciousness into the unconscious and reappear, under certain conditions, in dreams.

II.

We have still to consider Freud's theory of dream-synthesis as distinguished from dream-analysis. Many different kinds of processes may be detected in the *Traumarbeit*, or dream work. In the first place there are those processes of disguise adopted by the latent content which I have in outline already described. Secondly, there are [illegible]

Logical connexion in general in the latent content is represented by simultaneity in the manifest content. The relation of causality may be represented either by a mere succession of dream images or by an observable transformation of one into another. In the first case the succession is often between one dream and the next. Similarity is represented by unification, in the form either of identification or of a composite picture. These expressions of similarity often serve to represent a *desired* similarity. Relations are often represented in the manifest content in a reversed form; even in the succession representing causality the effect is frequently put before the cause. The explanation of this is, of course, the desire to evade the censor. Lack of clearness in the dream often represents actual uncertainty in the dream thought. One of Freud's patients at first refused to relate her dream to him "because it was so indefinite and confused." Finally, after some persuasion, she said "that there were several persons present in the dream, herself, her husband, and her father, and that she didn't seem to know whether her husband was her father, or who her father really was, or something of that sort." The explanation was that she was expecting a child, and that her friends had been bothering her to know "who exactly the father was." Evidently in such a case as this the lack of clearness is really a part of the dream-thought.

There are two general characteristics of dreams which deserve special mention. One is "*condensation*" (Verdichtung), where, through appropriate choice of material for the manifest content, the dream expresses the fulfilment of several wishes in one short dream experience. The manifest content chosen is as it were a nodal point or a number of nodal points from which important trains of association lead in different directions to eventually reach and sustain a number of wish-fulfilments. Each part of the manifest content is overdetermined, so that "*overdetermination*" (Ueberdeterminierung) is simply the other aspect of condensation. The second characteristic is that of "*displacement*" (Verschiebung), and has already been mentioned in another connexion. It consists in a shifting of emphasis or of psychical intensity from one part of the dream to another, "a transvaluation of all values" as Freud calls it, and produces a distortion of the dream which helps the repressed wish to evade the censor.

A tendency towards the rationalising of the manifest content along lines different from those of the hidden wish-fulfilment may often be detected in a dream, and may also continue to exert an influence on it after waking. This is what Freud has named "secondary elaboration," and is, of course, the work of the censor. The influence of the censor is also to be seen in the tendency to forget one's dreams, which may even extend to the interpretation of them. One may wake up from a dream [illegible] and fall to sleep again, and [illegible] dream and interpretation are [illegible] sufficient to refute Dr. Mort [illegible] forgetting of dreams is simply a special instance of the forgetting of dissociated states of consciousness. The forgetting is an active process of repression similar to the repression which first drove the wish into the unconscious.

All dreams, without exception, are egoistic. They are the fulfilment of wishes of an entirely selfish nature. In dreams where the dreamer himself does not seem to be present, it will be found that he is represented by some other personage. If several of these are present the ego is to be identified, thinks Freud, with the one who carries the "affect."

Professor Freud has worked out an elaborate psychological system to explain the phenomena of dreams and psychoneuroses, which I deal with more fully in a later section of this paper. Like many other psychologists, he regards the "psychical" as something very much wider than the "conscious." Of the latter he writes: "Consciousness appears to us to be a sort of sense-organ, which perceives a content given from elsewhere" (p. 105). This content, when not illuminated by consciousness, may yet persist as an unconscious psychical process. But Freud makes a new and important contribution to psychological theory in distinguishing between two kinds of unconscious ideas, to which he gives the names "*foreconscious*" and "*unconscious*" respectively. Describing the mind as a sensori-motor system made up of subsidiary systems or "instances" he writes:—

> The last of the systems at the motor end we call the *foreconscious*, in order to indicate that the excitation processes taking place within it can rise to consciousness without further hindrance, provided that certain conditions are fulfilled—e.g., the attainment of a certain intensity, a certain distribution of that [illegible] is [illegible] as attention, and so forth. It [illegible] the sys[illegible] hol[illegible] to voluntary movement. [illegible] because it has no access [illegible] during which [illegible] alteration (p. 382).

Put quite briefly, the distinction would seem to be one between repressed and unrepressed memories. The "unconscious" contains those tendencies experienced, or at least existent, during our past life, especially during the early years of childhood, which have been energetically repressed, and the censor, which is the allegorical name for this repression, is therefore situated between the unconscious and the foreconscious. That is to say, the censor is itself unconscious (or foreconscious), although at the time when the repression of the infantile tendencies first took place it may have been conscious. Freud also inclines to the view that there is some evidence for the existence of a second censor between the foreconscious and the conscious.

Now it is the foreconscious which furnishes the material of the "manifest content" of our dreams, and in it may be found not only wishes, but fears, anxieties, hopes, and all the other conative tendencies displayed by the mind. On the other hand; the unconscious contains wishes, and wishes only. These date from early childhood and are always sexual in nature, since no other wishes would have met with the vigorous repression necessary to drive them into the unconscious. Freud brings forward some interesting arguments in favour of this theory of the fundamental nature of wishing in early life. Unfortunately space does not allow me to discuss them here as they deserve.

The wishes of the adult consciousness, even when repressed, are in Freud's view seldom intense enough to serve single-handed as the motive to the formation of any dream, and in most cases, if not in all, need the coöperation of unconscious infantile wishes. It is these latter which supply the requisite energy, although themselves remaining hidden until revealed by psycho-analysis. They transfer their psychical energy to corresponding elements in the foreconscious and so attain to a vicarious fulfilment. The only wish derived from the foreconscious which is a primary constituent of any dream is the wish to continue sleeping, and this wish is an essential part of every dream. It might perhaps be regarded as an infantile wish which has never been repressed and has never undergone modification in the course of mental development.

(To be concluded.)

ANNUAL REPORT OF THE LONDON COUNTY COUNCIL FOR 1911.[1]

(*Concluded from p. 1047.*)

IN a leading article in THE LANCET of March 15th on the Vital Statistics of London we announced the intention of further considering Dr. W. H. Hamer's contribution to this report, only a partial notice of which was then possible.

Typhoid Fever.

Among several matters of medical interest, Dr. Hamer's account of the behaviour of typhoid fever in London is particularly noteworthy. In the course of the last 20 years numerous explosive outbreaks of this disease have occurred in different parts of the metropolis, the cause of which was in most cases traced to infected food. In some instances suspicion seemed to attach to shell-fish, in others to ice-cream, to fried fish, or to watercress.

The present report strikingly illustrates the difficulty of discriminating between one and another suspected food-supply, and is therefore deserving of attentive study. It is reassuring to learn that efforts are now systematically made by local medical officers of health to trace the source of infection wherever typhoid fever attacks are reported. According to the local reports a large number of fever cases appear to have been imported, most of these giving a history of seaside or foreign infection. The difficulty of diagnosis is emphasised in some of the reports, and this difficulty is illustrated by the return of cases certified as typhoid fever and admitted to the hospitals of the Metropolitan Asylums Board. From a table it appears that during the last 10 years the proportion of these cases wrongly diagnosed as typhoid fever has varied annually from 18 to 38 per cent. In the course of the year 1911 nearly one-third of the cases admitted were eventually declared to have been erroneously certified.

Investigation into Typhoid Fever Prevalence in London.

About the middle of September a marked increase of typhoid fever was observed in different parts of London. In Finsbury alone 30 cases were reported in a single week, the number notified in the preceding five weeks having averaged less than 1 per week.

In the annual reports of the medical officer of health of Finsbury for 1910 and 1911 special reference is made to certain localised prevalences of typhoid fever and to possible sources of infection. For example, the suggestion is made that hawkers suffering from incipient typhoid fever while selling watercress or fruit may be a means of spreading infection. A further possibility suggested is the existence of undiscovered carriers of typhoid fever. In considering the exceptional prevalences referred to, question arose as to whether certain cases of typhoid fever occurring in other parts of London may have been due to the same causes as those operative in Finsbury. The matter was therefore referred by Sir Shirley Murphy, then his chief, to Dr. Hamer for special investigation, and his report (which is reprinted in the present volume) was presented to the County Council at the time.

At the outset careful examination was made of the usual media of typhoid infection. Milk, to which, of course, attention was directed, was readily exonerated. The possibility of contamination of water mains was next considered, but the distribution of attacks lent no support to such a hypothesis. The age-constitution of the sufferers in this outbreak was remarkable, children and young adults between the ages of 5 years and 25 being, with few exceptions, the victims. Moreover, the sufferers were exceptional socially. The exclusive selection for attack of persons at certain ages and of a particular social class practically negatived the probability that either water or milk was accountable for the outbreak. On the other hand, the rapidly growing conviction that either fried fish or ice-cream was at fault received further confirmation thereby. Among other articles of food, shell-fish and watercress came under scrutiny, but very few of the sufferers had consumed either of these articles of food; moreover, the mussel season had at that time barely commenced.

In submitting to the Council the results of Dr. Hamer's investigation, Sir Shirley Murphy remarked that "*primâ facie* there were some grounds for suspecting that the outbreak might possibly have been due to ice-cream; but an analysis of all the evidence failed to show any other explanation than the consumption of fried fish as the cause of the prevalence." The ground on which ice-cream was at first suspected as a possible source of mischief was the fact that about one-third of the sufferers had purchased ice-cream from one particular vendor. But it was subsequently proved that 35 of the 56 sufferers had not partaken of ice cream at all. On the other hand, no fewer than 52 of the 56 infected persons had consumed the suspected fish. Moreover, careful study of the age-incidence and topographical distribution of the sufferers, and of the purchasers of fried fish at the particular shop, yielded strong evidence in support of the fish infection theory; and this evidence was further strengthened by the fact that there were numerous instances among families where a single person bought suspected fish and was alone attacked, whilst among families sharing fish in common multiple attacks supervened. It may here be affirmed that the presumption that the whole fish-supply at this period fell under suspicion has never been made in the course of this investigation. Dr. Hamer's report dealt fully with the question of the particular consignment of fish probably at fault, and made it clear that it was only the cheaper portions of fried fish sold to the early evening customers on a particular date in August that could properly be suspected. It is probable that the infected fish was distributed, not in Finsbury alone, but in two other boroughs also. The records of onset of illness pointed to August 17th or 18th as the date of delivery in London of the infected consignments of fish. It is important to note that some of the fish deliveries referred to were from unusual sources, owing to dislocation of traffic caused by a strike. It was stated at the time that on this account trawler owners on the coast found it impossible to dispose of the boat catches at the end of the preceding week. Dr. Hamer draws attention to the important fact, established by the inquiries and reports of officers of the Board of Trade, that much of the small plaice sold at Billingsgate comes from certain "nursery ponds" not far from the mouth of the Elbe. It is possible that "estuary fish" may be in question in the present case.

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[1] Previous notices of this report appeared in THE LANCET of March 15th, p. 764, and April 12th, p. 1045.

Previous Outbreaks of Typhoid Fever

The County Council reports of past years contain evidence of several previous outbreaks of typhoid fever in London apparently caused by fried fish, and the recent occurrence at Finsbury adds another to the list. In his annual report for 1910 Sir Shirley Murphy epitomised the facts respecting these outbreaks. It is there stated that as far back as the year 1900 three localised prevalences of typhoid fever occurred in Southwark, in one of which 120 persons were attacked. Dr Hamer obtained evidence implying that the Southwark prevalence was due to infected fish and, further, that two other prevalences (in Lambeth and Kensal Town) were probably due to a similar cause. In 1903 the same origin was assigned for certain prevalences of typhoid fever in Holborn and in Southwark, and in 1906 there was some evidence pointing in the same direction. In 1908 fish again fell under suspicion in Bethnal Green and in Shoreditch. In 1910 Bethnal Green was yet again visited this time more severely. In this case examination showed that every one of the 49 sufferers from typhoid fever obtained fried fish from one or other of three specified shops, two of which derived their fish supply from a common source. Almost simultaneously with this latter outbreak 33 local prevalences of typhoid fever occurred in various parts of London and in Tottenham and Edmonton. After exclusion of the ordinary sources of mischief it was found in all these instances that the sufferers had partaken of fish (frequently fried), and that these were usually small plaice, known among fish vendors as "late steamer fish". Very great are the chances against such a combination of circumstances as the foregoing being the result of mere coincidence.

Tuberculosis in London

The campaign against tuberculosis continues to be carried on systematically in the metropolis, and as a result the loss of life from this eminently preventable disease still continues to decrease. Compulsory notification of pulmonary tuberculosis is now in full operation throughout the county. Under a general order of Nov 15th 1911, the Local Government Board issued a further series of regulations respecting this subject. These regulations complete the system of notification inaugurated in 1908 and medical practitioners are now required to notify to the sanitary authority every case of pulmonary tuberculosis occurring in the course of their public or private practice.

Referring to the issue during the year of the Final Report of the Royal Commission on Tuberculosis, and especially to the declaration of the Commissioners that more ample powers than they now possess are needed by the County Council for the exclusion of tuberculous milk from London, the report proceeds to show that in the interval between the inauguration of the Council's General Powers Act in 1907 and the end of 1911 between 7000 and 8000 samples of cows' milk have been examined, the result being that 10.8 per cent. of those samples were found tuberculous. The milk came from 28 different counties, not all of them near London. Since the Act came into force the Council's veterinary inspector has visited 1622 farms and inspected 44 307 milch cows, of which 1.3 per cent. were found to be affected with tuberculosis of the udder. It is satisfactory to learn that the owners concerned have undertaken to discontinue the sale for human consumption of the milk of the animals thus affected. All the animals in London cowsheds are examined by a veterinary surgeon about six times yearly under the provisions of the Act of 1904, by which the Council is authorised to seize and slaughter any cow suspected to be suffering from tuberculosis of the udder. During the year under notice 18 animals were seized and slaughtered under the Act and compensation was made to the owners, post-mortem examination having shown in each case that the udder of the animal was tuberculous.

Cerebro spinal Fever

Under the Public Health (London) Act, 1891, the Council made an order extending for a further period of 12 months from March, 1911, the notification of cerebro-spinal fever (epidemic cerebro-spinal meningitis) occurring within the county. Arrangements have been perfected whereby the County Council receives from medical practitioners particulars of all cases coming under observation. This information is promptly communicated to the several medical officers of health, who thus receive warning of cases occurring in other districts, and facilities are afforded for observation in event of the disease showing a tendency to spread. During the year under notice 101 cases of this disease were reported, bringing up the total since 1907, when notification first became compulsory, to 642 cases. The notification of this disease, as well as of acute poliomyelitis, is now permanent.

Housing of the Working Classes

A history of the housing question in London up to the year 1900 has already been published[2] by the Council, and an account of the Council's housing work since that date is now in course of preparation.

In the present report particulars are given of the powers of the Council for the housing of the working classes. Part I of the Act of 1890 imposes on the County Council the duty of demolishing and reconstructing unhealthy areas that are large enough to be important to the whole county. It also imposes on them the necessity of providing for the re-housing of persons of the working class displaced by such demolition. Part II empowers the borough councils (and in their default the County Council) to deal with individual obstructive houses, or with smaller insanitary areas of merely local importance. Under Parts I and II the County Council has already completed 13 schemes involving the displacement of more than 16 000 working class persons and the re-housing of 15 000 of the persons displaced. Under the Housing and Town Planning Act 1909, facilities are given for dealing, by way of demolition, with such dwelling houses as are so dangerous or injurious to health as to be unfit for human habitation, the power to make the necessary orders for this purpose being entrusted by that Act to the local authorities instead of to the courts of summary jurisdiction as formerly. The expenditure by the County Council up to March 1912 in respect of the clearance of insanitary property amounts in the aggregate to nearly £3 500 000. In carrying out public improvements other than schemes under the Housing Acts the Council has displaced more than 12 000 persons, and has provided suitable accommodation for nearly 13 000 in lieu of the properties demolished. The Council has already erected three model lodging houses for men, containing 1856 cubicles, but on account of the still persisting deficiency of such accommodation it has recently provided in various parts of London a number of tenements capable of accommodating 4068 persons. In addition, it has acquired four suburban estates—at Tottenham, Tooting, Norbury, and Hammersmith—comprising 340 acres. Up to the end of the year under notice, 2405 cottages accommodating 17,831 persons, had been completed on these estates, making a total accommodation for nearly 22 000 persons provided under Part III of the Act.

ROYAL MEDICAL BENEVOLENT FUND

As previously announced, the King was graciously pleased last year to confer on the Fund the title of "Royal". To celebrate this event it has been arranged to hold a dinner of those interested in the Fund and its Guild—ladies and gentlemen. H.R.H. Prince Arthur of Connaught will preside over the dinner which will take place on Wednesday, April 30th, at the Hotel Cecil. The following is the second list of stewards:—

Acland, Dr. T. Dyke
Alexander, Dr. F. W.
Baker, Dr. J. C.
Brownfield, Mr. H. M.
Chapman, Dr. C. W.
Cock, Mr. F. W.
Cook, Mr. H.
Clayton Greene, Mr. W. H.
Edge, Dr. A.
Finlay, Prof. D.
Flower, Mr. G. W.
Freyer, Mr. P. J.
Gardner, Dr. H. W.
Godlee, Lady
Godson, Dr. Clement
Green, Dr. W. G.
Griffith, Mr. J.
Gubbins, Surg.-Gen. Sir W.
Hay, Dr. K. R.
Hewitt, Sir Frederic and Lady
Hovell, Hon. Mrs. Mark
Howarth, Mr. G.
Lawford, Mr. J. B.
Lett, Mr. Hugh
Lowe, Mrs.
Luce, Dr. R. H.
Macnaughton Jones, Dr. H.
Mann, Dr. A.
Porter, Surg.-Gen. Sir James
Renton, Dr. Crawford
Sharkey, Dr. S. J.
Stevens, Dr. T. G.
Thompson, Dr. Theodore
Treves, Sir Frederick
Turney, Dr. H. J.
Walford, Dr. and Mrs. R. M. H.
White, Dr. Mower
Whitfield, Dr. A.
Woodhead, Prof. Sims
Wright, Mr. G. A.

Communications relating to the dinner may be addressed to Mr. G. Bethell, 11, Chandos street, Cavendish square, W., and subscriptions sent to the treasurer, Dr. Samuel West, 15, Wimpole street, W.

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[2] The Housing Problem in London, 1855-90 (No. 503).

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8293 births and 5195 deaths were registered during the week ended Saturday, April 12th. The annual rate of mortality in these towns, which had been 16·5, 16·9, and 15 6 per 1000 in the three preceding weeks, further declined to 15·2 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these towns averaged 16·9 per 1000, against a corresponding rate of 17·5 in London. The death-rates last week in the several towns ranged from 7·5 in Tottenham and in Edmonton, 7·7 in Coventry, 7·9 in Carlisle, 8·2 in Croydon, and 8·3 in Willesden and in Hornsey, to 22 7 in Gloucester and in Stoke-on-Trent, 24·3 in Halifax, 26·7 in St. Helens, and 27·9 in Stockton-on-Tees.

The 5195 deaths from all causes in the 96 towns were 142 fewer than the number in the previous week, and included 394 which were referred to the principal epidemic diseases, against numbers declining from 464 to 402 in the four preceding weeks. Of these 394 deaths, 213 resulted from measles, 63 from infantile diarrhœal diseases, 50 from whooping-cough, 36 from diphtheria, 19 from scarlet fever, and 13 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·2 per 1000, and coincided with the rate in each of the two preceding weeks. The deaths attributed to measles, which had been 220, 208, and 215 in the three preceding weeks, were 213 last week, and caused the highest annual death-rates of 2·0 in Bolton and in Stockton-on-Tees, 2·1 in Smethwick, 2·2 in Wolverhampton, 2·3 in West Bromwich and in Wigan, 2·4 in Newport (Mon.), 3·1 in St. Helens, and 5·2 in Gloucester. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 67, 71, and 53 in the three preceding weeks, rose to 63 last week, and included 16 in London, 7 in Liverpool, 4 in Stoke-on-Trent, 4 in Walsall, 3 in Birmingham, and 3 in Nottingham. The fatal cases of whooping cough, which had declined from 83 to 60 in the four preceding weeks, further fell to 50 last week; 15 deaths were registered in London, 5 in Liverpool, 3 in Stoke-on-Trent, and 2 each in Birmingham, in Oldham, in Leeds, and in Aberdare. The deaths attributed to diphtheria, which had declined from 54 to 35 in the five preceding weeks, were 36 last week, and included 11 in London, 4 in Stoke-on-Trent, 4 in Manchester, 3 in Leeds, 2 in Cambridge, and 2 in Leicester. The deaths referred to scarlet fever, which had been 28, 19, and 23 in the three preceding weeks, were 19 last week, of which number 4 were recorded in London, 3 in Birmingham, and 2 in West Ham. The fatal cases of enteric fever, which had been 13, 8, and 16 in the three preceding weeks, slightly fell to 13 last week, and included 3 in Manchester and 2 in Liverpool.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily declined from 2112 to 1410 in the 15 preceding weeks, had further fallen to 1357 on Saturday last; 148 new cases were admitted during the week, against 156, 168, and 167 in the three preceding weeks. These hospitals also contained on Saturday last 872 cases of diphtheria, 811 of measles, 264 of whooping-cough, and 38 of enteric fever, but not one of small-pox. The 1287 deaths from all causes in London were 129 fewer than the number in the preceding week, and were equal to an annual death-rate of 14·9 per 1000. The deaths referred to diseases of the respiratory system, which had steadily declined from 453 to 346 in the six preceding weeks, further fell to 285 last week, but were 59 above the number recorded in the corresponding week of last year. The deaths attributed to influenza numbered 45, against 65, 47, and 45 in the three preceding weeks.

Of the 5195 deaths from all causes in the 96 towns, 177 resulted from different forms of violence, and 384 were the subject of coroners' inquests. The causes of 42, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Leeds, Bristol, West Ham, Portsmouth, Salford, Cardiff, Bolton, and in 59 other smaller towns. Of the 42 uncertified causes of death, 4 were registered in Birmingham, 3 in Stoke-on-Trent, 3 in Liverpool, 3 in Gateshead, 2 in Gloucester, 2 in Bury, and 2 in Newcastle-on-Tyne.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1196 births and 746 deaths were registered during the week ended Saturday, April 12th. The annual rate of mortality in these towns, which had steadily declined from 20·7 to 17·2 per 1000 in the six preceding weeks, was again 17·2 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these Scotch towns averaged 19·1, against a corresponding rate of 16·9 per 1000 in the 96 large English towns. Among the several towns the death-rates last week ranged from 10·7 in Ayr, 11·9 in Perth, and 12·0 in Kilmarnock, to 20·8 in Greenock, 21·6 in Coatbridge, and 22 0 in Dundee.

The 746 deaths from all causes were 2 in excess of the number in the previous week, and included 83 which were referred to the principal epidemic diseases, against numbers declining from 88 to 75 in the three preceding weeks. Of these 83 deaths, 44 resulted from whooping-cough, 13 from measles, 11 from infantile diarrhœal diseases, 9 from diphtheria, 3 from enteric fever, and 3 from scarlet fever, but not one from small-pox. These 83 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·9, against 1·2 per 1000 in the 96 large English towns. The deaths attributed to whooping-cough, which had been 55, 44, and 43 in the three preceding weeks, were 44 last week, and included 25 in Glasgow, 8 in Edinburgh, 4 in Greenock, and 2 each in Leith, in Motherwell, and in Hamilton. The deaths referred to measles, which had been 5, 9, and 8 in the three preceding weeks, rose to 13 last week of which number 5 occurred in Glasgow and 4 in Aberdeen. The fatal cases of diarrhœa and enteritis (among infants under 2 years of age), which had been 18, 17, and 13 in the three preceding weeks, further declined to 11 last week, and included 5 in Glasgow and 2 in Dundee. The deaths attributed to diphtheria, which had been 3, 7, and 6 in the three preceding weeks, rose to 9 last week and comprised 5 in Glasgow, 3 in Aberdeen, and 1 in Greenock. The 3 deaths referred to enteric fever were equal to the number registered in each of the two preceding weeks, and were recorded in Aberdeen, Paisley, and Coatbridge respectively; the 3 fatal cases of scarlet fever, which coincided with the average in the three preceding weeks, were registered in Glasgow, Aberdeen, and Leith respectively.

The deaths referred to diseases of the respiratory system, which had been 166, 154, and 127 in the three preceding weeks, further declined to 117 last week; 31 deaths were attributed to different forms of violence, against 17 and 27 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 716 births and 517 deaths were registered during the week ended Saturday, April 12th. The annual rate of mortality in these towns, which had been 21·7, 23 8, and 23·3 per 1000 in the three preceding weeks, further declined to 22·5 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these towns averaged 22·2 per 1000; in the 96 large English towns the corresponding death-rate did not exceed 16·9, while in the 16 Scotch towns it was equal to 19·1 per 1000. The annual death-rate last week was equal to 27 2 in Dublin (against 14·9 in London and 18·0 in Glasgow), 19·6 in Belfast, 24·5 in Cork, 14·0 in Londonderry, 19 0 in Limerick, and 20·9 in Waterford, while in the remaining 21 smaller towns the mean death-rate did not exceed 20·7 per 1000.

The 517 deaths from all causes in the 27 Irish towns were 18 fewer than the number in the previous week, and included 37 which were referred to the principal epidemic diseases, against 46 and 39 in the two preceding weeks. Of these 37 deaths, 14 resulted from measles, 10 from infantile diarrhœal diseases, 5 from scarlet fever, 5 from diphtheria, and 3 from whooping-cough, but not one from small-pox

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1912.

(*Specially compiled for* THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1912.	Notified Cases of Infectious Disease.												Deaths from Principal Infectious Diseases.									Deaths from all causes.	Death-rate per 1000 living.†
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhoea and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,519,754	4	11,312	7101	3	704	7	380	4098	105	132	23,846	5·3	1	1799	159	452	970	117	1371	4869	1·1	61,101	14·3
West Districts.																								
Paddington	142,362	—	269	254	—	15	—	11	117	7	6	679	4·8	—	31	3	6	20	1	43	104	0·7	1751	13·1
Kensington	171,746	—	304	180	—	15	2	8	116	—	1	626	3·7	—	27	5	6	24	4	37	103	0·6	2226	14·0
Hammersmith	122,750	—	333	178	—	11	—	7	102	2	2	633	5·2	—	29	4	13	17	4	29	96	0·8	1605	13·6
Fulham	155,402	—	485	233	—	28	—	39	115	2	5	896	5·8	—	65	6	15	45	8	33	172	1·1	1935	13·4
Chelsea	65,397	—	126	89	—	10	—	7	30	—	1	263	4·0	—	22	2	5	14	1	8	52	0·8	949	15·1
City of Westminster	157,248	—	238	160	—	17	—	19	92	3	6	535	3·4	—	37	4	11	16	4	33	110	0·7	1942	13·9
North Districts.																								
St. Marylebone	116,155	—	259	149	—	11	—	5	89	1	3	517	4·5	—	40	11	8	19	5	26	109	0·9	1601	14·7
Hampstead	85,966	—	107	161	—	10	—	3	44	1	2	328	3·8	—	11	1	17	4	1	1	35	0·4	842	11·1
St. Pancras	216,145	—	597	550	—	29	—	20	189	3	3	1391	6·5	—	95	5	25	44	3	37	209	1·0	3148	15·3
Islington	326,398	—	811	517	—	49	—	16	186	13	11	1603	4·9	—	151	9	39	57	8	90	354	1·1	4663	14·9
Stoke Newington	50,581	—	90	55	—	3	—	3	33	1	5	190	3·8	—	5	—	—	3	—	3	11	0·2	610	12·6
Hackney	222,986	—	515	252	—	27	—	27	210	7	8	1046	4·7	—	19	8	12	33	3	60	135	0·6	2691	12·6
Central Districts.																								
Holborn	48,026	—	114	89	—	12	—	—	47	1	—	263	5·5	—	25	—	7	7	1	8	48	1·0	736	16·6
Finsbury	86,130	—	157	144	1	8	—	12	144	1	3	470	5·5	—	129	5	13	29	1	44	221	2·6	1611	19·4
City of London	18,695	—	33	17	—	2	—	—	14	1	1	68	3·6	—	2	—	1	1	—	4	8	0·4	251	14·8
East Districts.																								
Shoreditch	110,430	—	153	139	1	14	—	8	148	5	—	468	4·3	—	116	5	19	47	4	94	285	2·6	1997	19·0
Bethnal Green	127,985	—	283	220	—	30	—	16	192	6	7	754	5·9	—	91	2	12	32	3	48	188	1·5	1954	15·5
Stepney	277,315	—	929	363	—	56	1	31	342	11	12	1745	6·3	—	170	13	26	96	9	153	467	1·7	4211	15·9
Poplar	161,597	1	314	253	—	36	—	20	198	6	5	833	5·2	—	112	3	17	64	7	68	271	1·7	2635	16·9
South Districts.																								
Southwark	190,017	—	500	283	—	39	—	18	265	8	6	1119	5·9	—	139	6	27	49	4	104	329	1·7	3163	17·5
Bermondsey	125,200	—	418	218	1	37	—	19	164	4	7	868	6·9	—	102	8	16	36	5	67	234	1·9	2097	17·2
Lambeth	297,550	—	696	336	—	61	—	24	223	7	9	1256	4·2	—	97	9	29	55	13	98	301	1·0	3951	13·7
Battersea	167,589	—	462	232	—	21	—	7	133	2	2	859	5·1	—	65	6	15	40	2	50	168	1·0	2044	13·1
Wandsworth	321,881	—	812	428	—	69	2	29	207	3	3	1555	4·8	—	50	11	19	61	8	73	222	0·7	3264	10·8
Camberwell	261,591	—	634	318	—	29	1	17	216	5	11	1231	4·7	—	81	8	21	51	6	65	232	0·9	3363	13·4
Deptford	109,377	—	404	169	—	9	1	8	191	4	4	780	7·2	—	28	6	11	25	2	29	101	0·9	1432	13·8
Greenwich	95,994	—	439	254	—	11	—	5	98	—	2	809	8·5	—	28	9	15	30	2	25	109	1·1	1254	13·4
Lewisham	165,249	—	457	436	—	26	—	7	103	1	2	1032	6·3	—	11	6	27	24	6	26	100	0·6	1714	10·8
Woolwich	121,932	3	472	424	—	20	—	3	90	—	3	1015	8·4	1	31	4	20	27	2	10	95	0·8	1411	12·4
Port of London	—	—	1	2	—	1	—	—	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

or from enteric fever. These 37 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·7 per 1000; the death-rate from these diseases last week did not exceed 1·2 in the 96 large English towns, while in the 16 Scotch towns it rose to 1·9 per 1000. The deaths attributed to measles, which had been 14, 17, and 14 in the three preceding weeks, were again 14 last week, and comprised 8 in Wexford, 3 in Newry, 2 in Belfast, and 1 in Cork. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 7, 8, and 11 in the three preceding weeks, were 10 last week, and included 5 in Dublin and 3 in Belfast. The 5 fatal cases of scarlet fever, of which 3 occurred in Dublin and 2 in Belfast, were 3 above the average in the three preceding weeks. The 5 deaths attributed to diphtheria were equal to the average in the three preceding weeks, and comprised 4 in Dublin and 1 in Belfast. The 3 deaths referred to whooping-cough were registered in Dublin.

The deaths in the 27 Irish towns referred to diseases of the respiratory system, which had been 138, 122, and 142 in the three preceding weeks, declined to 109 in the week under notice. Of the 517 deaths from all causes, 158, or 31 per cent., occurred in public institutions, and 10 resulted from different forms of violence. The causes of 17, or 3·3 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

VITAL STATISTICS OF LONDON DURING 1912.

IN the accompanying table statistics of sickness and mortality in the City of London and in each of the metropolitan boroughs are summarised for the year 1912. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to a rate of 5·3 per 1000 of the population estimated at 4,519,754 persons in the middle of the year; in the three preceding years the rates had been 6·6, 4·5, and 5·4 per 1000 respectively. Among the various boroughs the rates last year ranged from 3·4 in the City of Westminster, 3·6 in the City of London, 3·7 in Kensington, and 3·8 in Hampstead and in Stoke Newington, to 6·5 in St. Pancras, 6·9 in Bermondsey, 7·2 in Deptford, 8·4 in Woolwich, and 8·5 in Greenwich. The cases of small-pox notified during the year numbered 4, against 21, 7, and 63 in the three preceding years; of these 4 cases, 3 belonged to Woolwich and 1 to Poplar. The prevalence of scarlet fever showed a slight increase, 11,312 cases being notified in 1912, against 10,489 in 1911. Among the several metropolitan boroughs the greatest proportional prevalence of this disease was recorded in Fulham, Stepney, Bermondsey, Deptford, Greenwich, and Woolwich. The number of scarlet fever patients admitted into the Metropolitan Asylums Hospitals was 10,488 last year, against 16,183, 9889, and 9631 in the three preceding years; 2088 cases remained under treatment at the end of the year, against 2329, 1574, and 1878 at the end of the three preceding years. Diphtheria was somewhat less prevalent last year, 7101 cases being notified, against 7389 in the preceding year; this disease was proportionally most prevalent in Hampstead, St. Pancras, Holborn, Greenwich, Lewisham, and Woolwich. There were 6184 diphtheria patients admitted into the Metropolitan Asylums Hospitals last year, against 5799, 4882, and 6336 in the three preceding years; 959 patients remained under treatment at the end of the year, against 904, 827, and 1294 at the end of the three preceding years. The prevalence of enteric fever showed a marked decrease last year; 704 cases were notified, against 1284 and 1025 in the two preceding years. Among the several boroughs this disease was proportionally most prevalent in Holborn, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, Lambeth, and Wandsworth. The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals was 381, against 539, 745, and 552 in the three preceding years; 37 cases remained under treatment at the end of the year; 62, 88, and 76 at the end of the three preceding years. The greatest proportional prevalence of erysipelas occurred in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Deptford. The 380 cases of puerperal fever notified during the year included 31 in Stepney, 30 in Fulham, 29 in Wandsworth, 27 in Hackney, 24 in Lambeth, and 20 in St. Pancras and in Poplar. Of the 105 cases of cerebro-spinal meningitis, 13 belonged to Islington, 11 to Stepney, 8 to Southwark, and 7 each to Paddington, Hackney, and Lambeth; and of the 132 cases notified as poliomyelitis 12 belonged to Stepney, 11 to Islington, 11 to Camberwell, 9 to Lambeth, and 8 to Hackney.

The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex and age constitution of the populations. During last year the deaths of 61,101 persons belonging to London were registered, equal to a death-rate of 14·3 per 1000, the rates in the three preceding years being 14·6, 13·3, and 15 8 per 1000. Among the several boroughs the lowest death-rates last year were 10·8 in Wandsworth and in Lewisham, 11·1 in Hampstead, 12·4 in Woolwich, and 12·6 in Stoke Newington and in Hackney; the highest rates were 16·9 in Poplar, 17·2 in Bermondsey, 17·5 in Southwark, 19·0 in Shoreditch, and 19·4 in Finsbury. The 61,101 deaths from all causes included 4869, which were referred to the principal infectious diseases; of these, 1 resulted from small-pox, 1799 from measles, 159 from scarlet fever, 452 from diphtheria, 970 from whooping-cough, 117 from enteric fever, and 1371 from diarrhœa and enteritis among children under 2 years of age. The death-rates from these diseases in the aggregate ranged from 0·2 in Stoke Newington, 0·4 in Hampstead, and 0·6 in Kensington, in Hackney, and in Lewisham, to 1·5 in Bethnal Green, 1·7 in Stepney, in Poplar, and in Southwark, and 2·6 in Finsbury and in Shoreditch. The death from small-pox belonged to Woolwich. The 1799 fatal cases of measles were 223 below the corrected average number for the five preceding years; the greatest proportional mortality from this disease occurred in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey. The 159 deaths from scarlet fever were 229 fewer than the corrected average number; this disease was proportionally most fatal in St. Marylebone, Finsbury, Bermondsey, Deptford, and Greenwich. The 452 fatal cases of diphtheria were 187 below the corrected average number; the highest death-rates from this disease were recorded in Hampstead, Holborn, Finsbury, Shoreditch, Greenwich, Lewisham, and Woolwich. The 970 deaths from whooping-cough were 318 less than the corrected average number; this disease was proportionally most fatal in Fulham, Finsbury, Shoreditch, Stepney, Poplar, Bermondsey, and Greenwich. The 117 fatal cases of enteric fewer showed a decline of 63 from the corrected average number; the greatest proportional mortality from this disease was recorded in Fulham, St. Marylebone, Shoreditch, Poplar, Bermondsey, Lambeth, and Lewisham. Diarrhœa and enteritis among children under two years of age were proportionally most fatal in Finsbury, Shoreditch, Stepney, Southwark, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last year from the principal infectious diseases, excluding diarrhœa, was 22 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Acting Surgeons have been confirmed in the rank of Surgeon in His Majesty's Fleet:—Albert Edward Malone, Hamlet Mark Whelan, Robert Francis Preston Cory, Henry St. Clair Colson, George Albert Finegan, John Timothy Donal Sullivan Higgins, Jackson Graham Boal, Frederick St. Barbe Wickham, and Sidney Punch (dated Oct. 4th, 1912).

The following appointments have been notified:—Surgeons-General: A. J. J. Johnston to the *Pembroke*, additional, for Chatham Hospital, and to the Chatham Hospital; and A. W. May to the *President*, additional, for service at the Admiralty Medical Department.

ROYAL ARMY MEDICAL CORPS.

Frederick Edward Bissell, late Captain, Royal Army Medical Corps Special Reserve, to be Captain (dated April 16th, 1913).

Surgeon General H G Hathaway has taken up duty as Deputy Director of Medical Services to the Eighth (Lucknow) Division of the Southern Army

Colonel R J Geddes, D S O, has been placed under orders to return home from India on appointment as Assistant Director of Medical Services

Lieutenant Colonel E Eckersley has been selected for appointment to command the Military Hospital at Delhi *Lieutenant Colonel C W R Healey has* been granted eight months' leave of absence home from India Lieutenant Colonel J Thomson has been appointed for duty at Queen Alexandra's Military Hospital Lieutenant Colonel D M O Callaghan has been appointed to hold charge of the Military Hospital at Hilsea

Major W L Bennett has arrived home for duty from Bermuda Major E. A Bourke, on arrival home from Capetown, has been appointed to the Western Command Major A O Adderley has been transferred from the Military Hospital at Harrismith to Wynberg Major G J Stoney Archer has joined for duty at the Military Hospital, Cosham Major B R Dennis has been appointed to the London District Major A R O Flaherty has taken up duty at the Military Hospital, Ambala Cantonment Major W S Crosthwait has arrived in India for a tour of service Major E McDonnell has been appointed for duty to the Eastern Command Major S G Butler has been appointed to the Military Hospital at the Curragh The following Majors have been notified that they will be required for service abroad during the coming trooping season E E Powell G W Tate, C B Lawson H W H O Reilly, E H Condon, B W Longhurst, K B Barnett W Tabbits and W S Harrison

Captain G F Rudkin has arrived home on six months' leave of absence from India Captain C McQueen has been appointed *to the Aldershot Command* Captain A L Otway has been appointed Specialist Sanitary Officer at Portsmouth Captain P Farrant has embarked for a tour of service in the Sierra Leone Protectorate Captain N Dunbar Walker has taken up duty at the Military Hospital, Quetta Cantonment Captain W D C Kelly has embarked *for South Africa* Captain A E B Wood has been transferred from the Military Hospital at Hong Kong to Tientsin Captain D G Carmichael has taken up duty at Glencorse Captain G E Cathcart has embarked for a tour of foreign service Captain A S Littlejohns has been appointed to the Irish Command Captain R D O Connor has been transferred from the Military Hospital at Lahore to Multan Cantonment Captain A E Irvine has been appointed to the Belfast District Captain C M Ingoldby has been transferred from the Military Hospital at Cork to Kilkenny for duty Captain D P Johnstone has taken up duty at the Military Hospital Jhansi Captain N E Dunkerton has been appointed to the Aldershot Command Captain F McCammon has been appointed for duty in the Dublin District Captain R O Priest has been transferred from the Military Hospital at *Lebong to Allahabad Cantonment for duty Captain C H* Turner has joined at Dublin Captain J W L Scott has been appointed to the Royal Victoria Hospital at Netley Captain L Cotterill has been placed under orders for service abroad Captain C G Sherlock has been transferred from Bakloh Cantonment to the Military Hospital at Lahore for duty Captain E C Whitehead has joined the Military Hospital at Glasgow Captain G R Painton has joined for duty at Colchester

Lieutenant G Wilson has embarked for a tour of service in India Lieutenant B Biggar has left London for duty in Egypt Lieutenant G H Dive has been transferred from Tientsin to Peking for duty with the British Section of the Legation Guard Lieutenant A G J MacIllwaine has been transferred from Aldershot to Deepcut for duty at the Section Hospital Lieutenant E L Fyffe has left the Military Hospital at Cork and taken up duty at Poona Lieutenant C H Harold has been placed on special duty at Rawal Pindi Cantonment for a course of instruction in Indian sanitation and preventive medicine Lieutenant F G S Cane and Lieutenant F A Robinson have embarked for a tour of service in India Lieutenant R F Bridges has been transferred from the Second (Rawal Pindi) Division to the First (Peshawar) Division for duty at the Headquarters Military Hospital Lieutenant J M Elliott has been transferred from the Military Hospital at Portsmouth to Hilsea The following Lieutenants will be required for service abroad during the coming trooping season B H H Spence, W B Laird, R Davidson, H S Blackmore J M Elliott, F R B Skrimshire D W Bruce, T E Osmond, R T Vivian, E G H Cowen, L Buckley, and W L Webster

INDIAN MEDICAL SERVICE

*Lieutenant Colonel C R M Green Bengal Establishment, has been selected for the advanced rate of pay under Article 7 of the Royal Warrant Lieutenant Colonel J R Adie has been granted six months' extension of his leave of absence home from India on medical certificate Lieutenant Colonel Sir R Havelock Charles, G C V O, has been granted the temporary rank of Surgeon General, while employed as President of the Standing Medical Board at the India Office Lieutenant Colonel H E Banatvala has been selected to officiate as Inspector General of Civil Hospitals in the Central Provinces during the absence on eight months' combined leave home from India of Colonel G W P Dennys

Major A Fenton has been selected for appointment as officiating First class Civil Surgeon under the Government of Burma during the absence on leave of Lieutenant Colonel R H Castor Major S P James has taken up special duty under the Government of Ceylon for a period of one year Major W J Niblock has arrived home on leave of absence from India Major E R Rost and Major E L Ward have been awarded the Kaisar i Hind medal of the First Class for public services in India Major H J Walton has been selected for appointment as Professor of Pathology on the staff of King George s Medical College at Lucknow Major H W Illius has been selected for appointment as Civil Surgeon at Rae Bareli Major C B Prall has taken up duty at Lucknow as Superintendent of the Central Prison Major E J Morgan on return from leave, has been selected for appointment as Civil Surgeon at Sitapur Major J W Lethbridge has been granted 15 months' leave of absence home from India by the Foreign Department Major J Stephenson Principal of the Government College at Lahore has been appointed a Fellow of the Punjab University Major V G Drake Brockman, Agency Surgeon of the Second Class has been selected for appointment as Civil Surgeon at Dera Ismail Khan

Captain W S McGillivray has been selected for appointment as Specialist in Otology Larnygology and Rhinology Captain A G Tresidder *has taken up the appointment* of Substantive Medical Officer to the 87th Regiment of Punjabis Captain A F J *Lister has been selected for appointment* as Professor of Physiology at King George s Medical College Lucknow Captain P M Rennie has been granted an extension of leave of absence home from India for five months for study purposes Captain F W Sumner has been selected for appointment as Civil Surgeon at Farrukhabad Captain J McPherson has joined the Mewar Bhil Corps as Medical Officer under the Foreign Department Captain F S Smith has been selected for appointment as Substantive Medical Officer to the 120th Rajputana Infantry Captain F N White has been selected for appointment as officiating Secretary to the Director General of the Indian Medical Service in the Sanitary Branch during the absence of Major A G McKendrick Captain F C Fraser has taken up temporary duty in connexion with plague prevention under the Government of Madras Presidency

TERRITORIAL FORCE

Royal Army Medical Corps

2nd East Lancashire Field Ambulance Royal Army Medical Corps Quartermaster and Honorary Lieutenant John Walter Graham Steell from the 1st East Lancashire Field Ambulance Royal Army Medical Corps to be Transport Officer with the honorary rank of Lieutenant (dated March 27th 1913)

Attached to Units other than Medical Units —Captain Frederic W Kendle to be Major (dated Feb 21st 1913) Lieutenant George B Gill to be Captain (dated *Feb 25th* 1913) Major James A Wilson resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform (dated April 16th 1913) Major William Ernest Miles from the 3rd (City of London) Field Ambulance Royal Army Medical Corps, to be Major (dated March 13th, 1913)

COLONIAL MEDICAL SERVICES

Colonies and Protectorates —Dr W W Martin, Dr J W Adams, and Dr J London have been selected for appointment as Medical Officers in the Straits Settlements; Mr. J. M. G. Ewing has been selected for appointment as a District Medical Officer, St. Vincent; Mr. W. N. A. Paley has been selected for appointment as a Medical Officer, Fiji; Mr. W. S. Coffey has been selected for appointment as a Medical Officer in the Federated Malay States; and Dr. Orme has been seconded from the Federated Malay States Service to act as Principal Medical Officer, British North Borneo.

EXAMINATION FOR APPOINTMENTS AS ACTING SURGEONS IN THE ROYAL NAVY MEDICAL SERVICE.

At the examination for the Naval Medical Service held, on April 7th, 8th, 9th, and 10th, 1913, 14 candidates were successful. The maximum number of marks obtainable was 2400.

	Marks.		Marks.
A. M. Henry	1785	M. Mechan	1385
G. F. B. Page, M.B. ...	1605	H. E. Y. White, M.B. ...	1373
A. J. Patterson	1563	A. Simpson, M.B.	1343
D. G. Arthur	1465	F. C. Wright	1318
B. D. P. Sayers	1457	I. S. Gabe...	1290
W. A. S. Duck...	1455	A. J. Tozer	
P. B. Wallis	1413	D P. H. Pearson	1283

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The first article in the April number of the *Journal of the Royal Army Medical Corps* occupies 36 pages of the issue, and is a very interesting and concise account of Dark-ground Illumination in Microscopical Work, by Maurice A. Ainslie, R.N., Naval Instructor to H.M.S. *Britannia*. The method here explained, though not new, has received considerable attention in recent years, especially in the study of bacteria in their living state, and the author devotes his opening remarks to an historical summary of dark-ground illumination and the use of the condenser. It should be mentioned that, although the methods of Seidentopf and Zigsmondy are, strictly speaking, a form of dark-ground illumination, the author excludes these methods as being outside the scope of the present article. In successive little chapters he deals with the refractive index and numerical aperture, the various optical systems employed for dark-ground illumination, stops, objectives, eyepieces, and illuminants, and gives practical instructions for the adjustment of apparatus. The article is illustrated by some very clear diagrams and will be appreciated by those who wish to have a clear insight into the principles of the subject with which it deals. An address given to medical officers and assistant surgeons at Peshawar on medical tactics at the beginning of the year by Colonel R. H. Firth, included in this issue, is intended as a guide as to what officers should or should not do if they find themselves in charge of medical unit staff rides, and the author emphasises the need of keeping simple and frequent notes of the position and condition of units. An article by G. Fahey, late 88th Connaught Rangers, whose opinions and suggestions with regard to the hygiene of the soldier formed an interesting feature of recent issues of the journal, is worthy of thoughtful perusal, the subject of the paper being "Regimental Stretcher-Bearers."

THE ROYAL ARMY MEDICAL COLLEGE.

The Secretary of State for War will present the prizes at the Royal Army Medical College, Grosvenor-road, S.W., on the conclusion of the 105th session on April 29th, at 4 P.M.

THE IMPERIAL SERVICES EXHIBITION, EARL'S COURT, S.W.

The committee of the Royal Artillery Mess have lent an imposing marble statue, entitled "Armed Science," to the Imperial Services Exhibition, which will open at Earl's Court on May 31st, and the National Lifeboat Institution will show a full-sized lifeboat, together with various other appropriate exhibits. The general committee of the Imperial Services Exhibition are offering prizes for members of the British Red Cross Society to be competed for by the Women's and Men's Detachments of the Voluntary Aid Organisation throughout the country. The finals and semi-finals of the competition will be held at the exhibition, and will last a week. The Red Cross Society are providing an interesting exhibit in the grounds, where practical demonstrations of ambulance work will be given. The West African Force will also have an exhibit. It will consist of a representation of a camp with models of the various types of troops employed in West Africa. In order to provide for the comfort of the large number of ex-soldiers and sailors who have been employed in preparing the exhibition, arrangements have been made for a canteen and recreation room to be used by the ex-service men.

ROYAL NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on April 8th, Sir J. N. Dick, K.C.B., in the chair, the sum of £70 was distributed among the several applicants.

THE ANTARCTIC DISASTER.

Surgeon E. Atkinson, R.N., arrived at Plymouth on April 15th on board the New Zealand Shipping Company's steamer *Remuera*, accompanied by Mrs. Wilson, widow of Dr. Wilson.

Correspondence.

"Audi alteram partem."

A QUESTION OF CONTRACTS.

To the Editor of THE LANCET.

SIR,—The Scottish Commissioners under the National Insurance Act called for Friday last at Edinburgh a conference on the problem of the migrant and the summer visitor. Invitations were issued to Medical Committees to send representatives, and to clerks to Insurance Committees and others. On entering the room delegates were handed eight typewritten foolscap sheets dealing with the system proposed. After a speech by the chairman, Dr. McPhail was called upon to explain the proposals. Briefly, it was proposed to form a general pool and to pay by fee for service rendered. To form the pool it was proposed to deduct so much from the amount (7*s.*) payable to doctors for each insured per annum.

Two methods were offered: (*a*) A deduction of 1*d.* per quarter for each insured; this has the merit of simplicity at least. (*b*) The pool was to be obtained by deductions based on a so-called "illness value." Dr. McPhail referred the explanation of this system to Dr. Currie, the "onlie begetter" thereof. It was recommended as being fairer in its incidence, but it was obviously too complicated to be grasped by the meeting even after explanations.

From the point of view of the medical profession the important features were (1) payment by fee for migrants and visitors; (2) fee fund to be obtained by deductions from the 7*s.* payable to each doctor for every insured on his list. The chairman was promptly asked the following question: "Doctors having already signed a contract agreeing to serve under published Regulations, have the Commissioners any legal power or right to make any deductions from the 7*s.*?"

The chairman spoke at large, but would not answer the question. Dr. McPhail followed, and also avoided giving an answer, and then, as this was firmly requested, Mr. Fraser, the legal member, rose. At first he refused to commit himself, but in the end acknowledged that the Commissioners had no legal power to make these deductions. The point was raised, not in any way for the purpose of wrecking any reasonable scheme to overcome a pressing difficulty, but to establish at once the fact that every doctor's agreement with an Insurance Committee was a contract binding on both parties and only to be varied by agreement of both parties. The Commissioners' scheme must shortly be placed before the Medical Committees, and it was obvious at the conference that every effort would be made to rush it through.

You, Sir, will therefore be doing a great service to Medical Committees by giving wide publicity to the fact that the Commissioners have publicly acknowledged that they have no legal right to vary the Regulations this year without the consent of those who have signed their contracts. The Commissioners' scheme is a reasonable attempt to overcome a pressing difficulty—though by no means perfect—for one thing, no attempt had been made to make arrangements for those moving about within the limits of any single area—e.g., from one side of Perthshire to another. The amount of deduction, the method of deduction to form a pool for payment, the checks upon fraud, and the fees for service rendered are all matters for friendly discussion, but I think you will agree that more important is the sacredness of a contract. I am, Sir, yours faithfully,

HORACE C. COLMAN, M.D. Edin.

Broughty Ferry, Forfarshire, April 13th, 1913.

IODOFORM INJECTIONS IN PULMONARY TUBERCULOSIS.

To the Editor of THE LANCET.

SIRS,—I read with interest Dr. E. Curtin's letter in THE LANCET of April 12th. He either omits to mention or has [illegible] to the pati [illegible] stress has [illegible] ers. I venture to offer a few remarks bearing directly on this aspect of the subject.

During the past few months I have administered iodoform dissolved in ether, plus a small percentage of "paroleine," intravenously to 54 patients (32 men, 20 women, and 2 children) in different stages of pulmonary tuberculosis, the total number of injections being 1800 odd. If the technique be carefully and correctly observed the whole matter should be absolutely painless. The patient usually experiences a transient fit of coughing of from 10 to 20 seconds' duration.

In but one case in the series was the coughing excessive; this unpleasant, and in some cases possibly dangerous, symptom was obviated by only allowing the fluid to enter the blood stream minim by minim, with an appreciable interval between each drop. In two other cases slight hæmor- [illegible] *post hoc* or *propter hoc* [illegible] hen the sputum became [illegible] and no return of the hæmorrhage took place. Up to the time of writing no patient has objected to the treatment on the grounds of personal discomfort.

I purposely refrain at present from drawing any conclusions as to therapeutic value, only a limited number of patients having completed the treatment.

I am, Sir, yours faithfully,

FRANK CROSBIE, M.D. Dub. Univ.

The Hospital, Newcastle, co. Wicklow, April 14th, 1913.

TUBERCULOSIS OFFICERS, SCHOOL MEDICAL OFFICERS, AND THE MEDICAL OFFICERS OF HEALTH (SUPERANNUATION BILL).

To the Editor of THE LANCET.

SIR,—I should like to thank Dr. Alexander Graham for his timely letter in THE LANCET of April 12th, and to support his appeal for the urgent need of an amendment to the Medical Officers of Health (Superannuation) Bill, so that under "medical officers of health" school medical officers and tuberculosis officers will be included as well. I wish to specially urge the inclusion of tuberculosis officers for the following reasons:—

1. They are whole-time medical officers, and as such are unable to augment their income by doing other work. A part-time medical officer of health is included in the Bill. He usually has a large and lucrative general practice, and is in a better financial position than the tuberculosis officer.

2. Better men will undoubtedly apply for these posts if there is an assured superannuation scheme attached to them. The advantage to the community is obvious.

3. If medical officers of health are singled out for the superannuation scheme and tuberculosis officers excluded, the latter will feel under a grievance which cannot favourably affect the harmonious relations between them which are necessary in the public interest.

4. It should be easy and practical to include tuberculosis officers because all these appointments are quite new, and, therefore, payments can be made in every case from the commencement of the appointment.

I trust every tuberculosis officer will support Dr. Graham in this important matter by writing to him as he suggests. I am, Sir, yours faithfully,

G. LISSANT COX,

Tuberculosis Officer for the County Palatine of Lancaster.

County Offices Preston, April 12th, 1913.

THE INDIVIDUAL TREATMENT OF DIABETES.

To the Editor of THE LANCET.

SIR,—The celebrated exclamation, "Vous êtes orfèvre, Monsieur Josse," from *L'Amour Médecin*, came to my lips after reading Dr. Arany's able paper on "The Individual Treatment of Diabetes."[1] When he writes that our duty is to accommodate our treatment to each individual case, I feel sorry for the poor opinion he seems to have of the pre-Arany era penny-in-the-slot treatment we must have evidently indulged in. But when he concludes that as regards dietary conditions the Austrian spas are "quite reliable" (*parbleu!*), that the German ones are "not quite so good," and that in the French resort "the patient is almost left at large," I really feel I cannot let such a drastic statement pass unchallenged.

If Dr. Arany had taken the trouble to come to Vichy and see for himself—as so many British doctors do to whose evidence I appeal—he would know that for several years the diet question has been settled in all leading Vichy hotels, to say nothing of the specialised *maisons de régime.* In every one of these places he will find a special cuisine for cases of diabetes and another one for cases of gastro-hepatic disorders. Our patients are individually directed as regards their diet, and if the system is not "quite reliable," I would feel grateful to Dr. Arany if he kindly pointed out the fault. Or are we to admit that our patients are at large while we French doctors are mentally "*au maillot*," and that, to reverse the balance, Carlsbad patients are stringently "*caporalisés*," while their doctors, as seems to me, are at large? I am, Sir, yours faithfully,

GUSTAVE MONOD,

M.D. Paris, L.R.C.P. Lond., M.R.C.S. Eng.

Vichy, April 6th, 1913.

42 YEARS OF CONTRACT SERVICE.

To the Editor of THE LANCET.

SIR,—The position of "parish doctor" may not be a very lofty one in our profession, and is not thought much of either by some practitioners or by the British public. The title is unfortunate and the pay is small. But the office is an honourable one and important to the health of the general community, for complaints are apt to be caught from the pauper, even by the rich and mighty in the land.

In 1871 I succeeded Mr. B. Hands as parish doctor of Hornsey, where he had been the sole medical resident for 47 years. He was a contemporary of my own father at St. Bart.'s Hospital, both being apprenticed to John Abernethy. Now, retiring after 42 years' service, I am fortunate enough to be able to say that I have not had a single official complaint as to my treatment of the poor. My salary has remained the same throughout, though the population of the district has increased from below 20,000 to about 90,000. On the whole I have enjoyed the position, more especially the post of public vaccinator, in which I have preached the common sense of the procedure, while I can honestly say that I have never seen any ill-effects from it.—I am, Sir, yours faithfully,

F ORTON,

Surgeon-Lieutenant Colonel, V.D. (retired).

Crouch End, Hornsey, N., April 6th, 1913.

** We congratulate our correspondent and the authority with whom he has worked upon this long and useful record.—ED. L.

THE POSITION OF ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

To the Editor of THE LANCET.

SIR,—I have read with some interest and considerable astonishment the letter of your correspondent "Reform" in THE LANCET of April 12th. [illegible] regarding the position and work [illegible] in asylums appear to be much [illegible] tions may exist in some asylums, but they certainly do not in all. My asylum experience extends over 20 years, and in no case have I found conditions prevailing such as described by your correspondent.

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[1] THE LANCET, March 29th, 1913, p 884.

In every asylum I have been connected with each medical officer has had his own section and was responsible entirely for both the medical and surgical treatment of the patients under his care, and only in very rare instances has any outside surgical assistance been requisitioned; indeed, many operations are performed by the medical officers of asylums which the average general practitioner would not undertake. Several asylums have well-equipped pathological laboratories, and the assistant medical officers are encouraged to undertake scientific research. An essential feature of the assistant medical officer's work is to study the mental peculiarities of his patients, and to note the influence of mind on body. This must be of great assistance to him if eventually he decided to take up general practice. Moreover, his work in asylums trains him to recognise and treat early symptoms of mental aberration in his patients. As to the promotion of assistant medical officers, there is no doubt a certain amount of luck, but, as in other branches of the profession, steady and conscientious work usually meets with recognition.

I do not agree with your correspondent regarding the lack of skilled nursing in asylums. I am pleased to say I have met many excellent sick nurses, both male and female, and the course of study required for the nursing certificate of the Medico-Psychological Association is both thorough and comprehensive. In addition to the ordinary training in nursing, instruction in massage is now given in some asylums. I would point out to "Reform" that a large part of the training of nurses in asylums falls to the lot of the assistant medical officer, and that a keen medical officer usually means keen and competent nurses.

I am, Sir, yours faithfully,
F. R. P. TAYLOR.

East Sussex County Asylum, Hellingly, April 15th, 1913.

PROFESSIONAL FEES IN BANKRUPTCY.

To the Editor of THE LANCET.

SIR,—There is at present before Standing Committee B of this House a measure entitled "A Bill to Amend the Law with Respect to Bankruptcy and Deeds of Arrangement."

As the law now exists, under the preferential payment in the Bankruptcy Act of 1888, there shall be paid in priority to all other debts certain rents, rates, salaries or wages of clerks, servants, workmen, &c. To these classes entitled to priority I sought to add, without success, the fees due to professional nurses. I instanced cases where, after prolonged attendance on a patient, they were obliged to accept a compensation of 2*s.* in the £, the same as an ordinary trade debtor. I am confident that it only requires public attention to be drawn to the gross injustice possible to a noble profession under the existing law to have it altered. If those interested or sympathetic will only speak out between now and the report stage of the Bill I have no doubt the necessary amendment of the law would appeal to the sense of justice of all parties in the House.

In my opinion, the medical profession have also a strong claim for an amendment in the existing law under which, as it is at present, their fees only rank as ordinary creditors. I think that for some considerable time before a receiving order is granted, their fees should rank with those entitled to priority of treatment.

I am, Sir, yours faithfully,

House of Commons, April 15th, 1913. PATRICK WHITE.

"PSEUDO-BABINSKI" SIGN IN ANKYLOSIS.

To the Editor of THE LANCET.

SIR,—The impression has always been received that the Babinski extensor response to stimulation of the sole of the foot was pathognomonic of diseases of the descending pyramidal tract, the one exception being the post-epileptic response. In the phthisis wards at the Leeds City Hospitals there was recently a patient who had an ankylosed knee-joint due to old tuberculous disease. On testing this man's reflexes we discovered that he gave a "Babinski" with the toe of the ankylosed limb. Dr. H. de C. Woodcock, visiting physician to the tuberculous wards, who was going round with me, stated that he had, with Dr. W. Craig Stewart, of Leeds, seen another similar case of pseudo-Babinski following ankylosis of the knee-joint, and that he had brought the phenomenon to the notice of Dr. Edwin Bramwell, who considered that the explanation might be found in irregular tonicity in the extensor tendons and muscles of the foot, and that on stimulation the extensor tendons contracted more slowly than in the normal condition. Dr. Woodcock had also sought the opinion of the late Dr. G. A. Gibson, of Edinburgh, and he was inclined to think the explanation would be found in a condition of abnormal irritation in the nerve centres set up by the ankylosis. Dr. Purves Stewart hints at the condition in one page of his book, but I do not remember any reference in other authors. I am, Sir, yours faithfully,

JAMES A. M. CLARK, M.B., Ch.B. Aberd.,
Senior Resident Medical Officer, City Hospitals,
April 14th, 1913. Seacroft, Leeds.

INFANT MANAGEMENT.

To the Editor of THE LANCET.

SIR,—I must admit that when I read a few months ago the brief notice in your columns of Dr. E. M. Brockbank's book on "Children: their Care and Management" I did not feel encouraged to read it myself, and still less to recommend it to my patients. But, as it happened, circumstances brought the book into my hands, and in justice to the author I think I should send you my opinion of it, based on a practical application of its teaching to the needs of my own family. I opened its pages with no feeling of prejudice in its favour. But I quickly found that it contained much that would be helpful to the young mother overwhelmed with the task of bringing up her first baby, and very little that need conflict with the instructions of the up-to-date medical attendant. I disagree, as you do, with certain of Dr. Brockbank's precepts, but on the whole I think his book compares very favourably with the many other books written with a similar intention which I have studied. It seems to me extremely practical and lucid, quite free from mawkish sentiment, and inspired by a sympathetic insight into the difficulties of infant management. The ideal popular work on this subject has yet to be written, but in the meantime I would rather place Dr. Brockbank's book in the hands of an inexperienced but educated mother than any other I know of. I need scarcely add that I am personally unacquainted with the author. I am, Sir, yours faithfully,
M.B.

April 14th, 1913.

⁂ We have pleasure in publishing this unsolicited testimonial.—ED. L.

INSANITY AND DIVORCE.

To the Editor of THE LANCET.

SIR,—Dr. John Batty Tuke, jun., in his letter under the above heading, appears to suggest that the Royal Commission on Divorce has recommended that "after a certain number of years' detention in an asylum insanity should form a plea for divorce." I do not know of any "proposal" relating to insanity as a ground for divorce that need be considered other than that of the Royal Commission, which was not as Dr. Batty Tuke summarises it. The report recommended as a ground of divorce "incurable insanity after five years' confinement." It further recommended as a safeguard with regard to the proof of incurability the appointment of two experts whose duty it would be to examine and report to the court. There might have been a danger of an unjust divorce in the case described by Dr. Batty Tuke if he is satisfied that he himself would have unhesitatingly pronounced his patient to be incurable at the end of the first five years of her confinement, and if, in his opinion, the two official experts would have been unanimous in pronouncing her incurable after hearing his narrative of steady and uninterrupted improvement. It may be noticed that in any case she only missed by three years the exemption proposed by the Royal Commission for married women over 50 years of age. I am, Sir, yours faithfully,
E. A. A.

April 14th, 1913.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 990.)

VI.—QUALIFIED APPROVAL OF THE ACT AT DUMFRIES.

How the Act was Accepted.

IN Section 80 (4) of the National Insurance Act special mention is made of the burgh of Dumfries and the police burgh of Maxwelltown. Dumfries is a Royal borough; it has an ancient history and attracts many visitors who come to see the well preserved haunts of Scotland's great poet, Robert Burns, though its actual population only amounts to 16,061. But if the Royal borough of Dumfries is joined to the police burgh of Maxwelltown the total population of the two is 22,261. This junction is essential under the National Insurance Act, as a burgh, for the purposes of the Act, must have a population of not less than 20,000 inhabitants. So, in speaking of Dumfries in this article it must be understood that Maxwelltown is included in the term, and indeed, there is only a river of no great width between them.

Of the population in these joint burghs some 7000 are insured persons, and in the early days of March 6700 had selected their medical attendants. All the practitioners of Dumfries, except a specialist for diseases of the ear and throat, are on the panel. The panel consists of eight practitioners and three assistants, so that there is more medical service obtainable than is needed for panel work only. At first the medical men were all opposed to the Act and were resolved to have nothing to do with it. But these bold resolves cooled down when it was discovered that at Glasgow, even before Christmas, medical practitioners were willing to go on the panel, and that in Ayrshire and Stirlingshire all went in. The Dumfries Insurance Committee could have imported medical men from Glasgow and could have offered a sufficient income to induce five or six to come. This would have ruined all the newly established practitioners and seriously injured the others. Indeed, half the population would have been lost so far as the medical practice of the established practitioners is concerned. Then, looking closely into the matter, the medical profession began to hold that the terms under the Insurance Act were not so bad, and that, indeed, in some respects they offered advantages over pre-existing arrangements. In any case, this much can be said for the attitude of the Dumfries practitioners: it does not seem to have been influenced by political preferences. A practitioner known to be a convinced Conservative nevertheless emphatically approved of the Act, while a large proportion of Liberals were as thorough in their opposition. One thing all agree the Act has done. Here, as elsewhere, it has brought the profession much closer together.

All Contract Work Outside the Act Abolished.

Before the Act was working there existed at Dumfries branches of several Friendly Societies, such as the Foresters, the Oddfellows, and the Free Gardeners. Four practitioners held appointments from these various bodies. When, however, the Insurance Bill was introduced all the medical men of Dumfries held a meeting to discuss the situation. It was then decided that the first thing to be done was to give up all such contract work and not to accept any other similar appointment. It is something to be able to relate that this agreement has been faithfully kept. To-day at Dumfries there is no other contract medical work being done except what is being done under the Insurance Act. The practitioners have shown such unanimity throughout “ ‘

to hear more than one among tl

better now ”, but they may still

showing the strength of union

may occur with regard to the dependents on insured persons.

The Question of Mileage.

Undoubtedly a good many paying patients have now become insured persons, and the difficulty is to know what policy to follow so as not to lose still more of those who remain as private clients. This problem presents itself in regard to attendance upon domestic servants. There are many small landed estates round about Dumfries held by well-to-do families who are not extremely wealthy. The servants of these families are now insured persons, and if the family practitioner is not on the panel then the servant would introduce some other practitioner into the household. This means that the town practitioner puts his name on one or more neighbouring country panels where the estates of his best patients are situated. But having done so, he is apt to be called out of town, not only to attend his well-to-do clients and their servants, but anyone else who, seeing his name on the panel, has asked to be put on his list. It is not always prudent to refuse such tribute to popularity, and it is easy to imagine circumstances where to do so would not be right. If an allowance for mileage could be obtained this sort of thing would lose its terrors. But the only mileage allowed is calculated from the house of the medical practitioner who is nearest to the patient and on the panel, and the distance must exceed three miles. Thus a Dumfries practitioner explained to me he was physician to a family living at a distance of nearly seven miles from his house. After going four miles he passed the house of another panel doctor. This was the nearest doctor to his patient's house, and the distance was over two miles; so as the patient is not more than three miles from the nearest panel doctor no mileage is allowed, yet the practitioner who actually attends him has to travel just upon seven miles each way. It is true that a town doctor cannot be coerced into accepting patients living more than three miles from the town, but he is sometimes obliged to do so at Dumfries, for the best patients live on estates at considerable distances from the town. Then not only do the town doctors go out in the country districts, but some inhabitants of rural districts come and seek advice from the town physicians. It is difficult to prevent a good deal of overlapping. The country doctors have, however, one great advantage. They have no local nucleus for contract practice, so it would be absolutely useless for anyone to attempt to import practitioners to compete against them. There would be nothing to offer any imported man that would constitute a *sufficient inducement*. If the rural practitioner could obtain a more liberal mileage allowance his principal cause for complaining against the Act would be gone was the opinion prevailing at Dumfries.

Details of Practice.

Addressing myself to one of the leading practitioners in Dumfries he at once declared that he was fairly satisfied with the results under the Act. It is true he never had much club practice, but panel practice was an improvement by reason of its better and more severe regulations. He was not now so often troubled on a Sunday, and on weekdays the patients observed more strictly the consultation hours. This regulating of practice was in itself a great benefit; it was a fortunate accompaniment of the Act coming into force, as both his private and contract practice had increased since that date. It was not yet possible to tell how many of his former private patients had become contract patients under the Act; but several insured persons had declared to him that they would continue to pay fees as usual. Two such cases which he quoted were of persons who were insured because their regular income was below the income tax limit, but who generally received a good deal more money in an irregular way, and preferred to pay for the conveniences of private attendance. This practitioner calculated he had more than 400 insured persons on his list living within a mile of his house. During the first fortnight he received 37 visits at his surgery and had to pay 13 visits to patients in their own homes. These included some trivial cases such as a cut hand, a slight indigestion, a pimple, a gumboil, but there was an urgent case of appendicitis and a severe example of influenza. This was varied by a clerk who came because he had wax in his ear and a shop girl because her nose was too red. A complication arose in regard to a girl with a tuberculous joint, which may be mentioned as illustrative of a procedure that may become common. Formerly this patient was attended on purely charitable grounds. Now her family have paid all her insurance fees and she presents herself on the footing of an employed person. It is very doubtful whether she has any employment. Probably the family pays the fees of a fictitious employer. Other practitioners related that this was also the case with a few of their patients. It is a question, however, whether such manœuvres do any harm. They were not contemplated by the Act, but if a family pays instead of an employer in any case a payment is effected, whereas formerly the patient was attended purely for charity. Of course, the question of hospital treatment arises here. Many patients formerly treated on charitable grounds at the hospital will now be necessarily relegated to the medical men on the panels. Apart from the town patients, the first practitioner I saw had 50 names of persons who live in the country. Of these, six were ill during the first fortnight; but when he went out to see them he could generally contrive to make his visits in the course of a round in which he would also be visiting some paying patients. As yet, said this practitioner, there had been no hardships, except the excessive clerical work; that, he hoped, would be simplified, and in any case the worst was over.

The Allurements of Sick Pay.

The next two practitioners on whom I called were specially concerned about malingering. "The Act will do good, there can be no doubt about that," said the first; "but it does encourage malingering." Many persons got cards to which they were not entitled, he pointed out; and it is astonishing how many people had found out, since the Act came into force, that they could not do any more work. Even youths had discovered how to provoke an indigestion so as to get a holiday. He had half a mind to spoil the fun by prescribing a quantity of blisters. From this and other causes the members of the profession had a great deal more work to do than formerly, and for his part he could not tell whether it would pay better. They must wait until the summer experiences could be summed up before they could speak definitely; undoubtedly the work was hard, very hard now. The experience of both these gentlemen bore out what had been anticipated while the Bill was being discussed in Parliament and in the columns of THE LANCET. Before the Act those who were insured obtained from the Foresters and such societies less sick pay. They never got more than 9*s.* a week from their clubs, so they were more anxious to get back to work than they are now, when they may receive 10*s.* from an approved society under the Insurance Act and 9*s.* from another society. In these circumstances there was no need to hurry back to business. The next practitioner on whom I called went further than this. He knew of men who belonged to two Friendly Societies, so that when they were ill they got 9*s.* from the one, 9*s.* from the other, and 10*s.* insurance money, making 28*s.* a week, which was more than some of them could earn while in full work. Thus some men are literally living on their societies. There is, of course, this great difficulty that few men are absolute malingerers. Most of them really have a pain or a disability or an inconvenience, or truly believe that they have, but some of them make a serious affair of their trouble, and of course they are persuaded to take up this attitude by its pecuniary inducements. The medical adviser on his side is sorely tempted to sign the certificates quickly so as to secure the patient's prompt departure. Then it is most remarkable how rarely patients get well on a Thursday or Friday. It seems that the rounding off of a week is quite essential for an effective cure. The percentage of recoveries on a Sunday or Monday morning would be quite difficult to explain, if explanation were useful. But this was always the case with sick pay under the old club system, and must be regarded as a sort of accepted abuse. It cannot be prevented, but it might be well to watch those who belong to two societies besides being insured persons. Obviously if patients succeed in prolonging the duration of an illness, this means more work for their medical attendant, and a greater drain on the insurance funds. Thus I heard of a man who is a member of three societies and who is also an insured person under the Act. Every time he is incapacitated from work he wants four different certificates, and being only a labourer is better off when in receipt of all these benefits than when earning his usual small wage.

Effect of the Act on the Patent Medicine Trade.

At Dumfries, as at Carlisle, the officials of the Friendly Societies are no longer as ready as formerly to work gratuitously or for very small fees. The Foresters, for instance, had a sick steward who gave the money; it was done in a friendly manner among men banded together in a sort of brotherhood. But these men were amateurs, not trained accountants. On the other hand, large business insurance organisations employ only trained accountants, and they do not pay without formality. They are hard-and-fast business men, and the people do not like this, while acknowledging that the officials of the Friendly Societies were not such good managers. This is a big question affecting the whole country and on which much more will have to be said. Then there are a good many who are not fully employed, but are fully insured. For this and many other reasons the question of the ability of those who actually apply the Act is of far-reaching importance. At Dumfries the Prudential was early in the field, and gathered in many newly insured persons. A practitioner who has a large connexion among the Roman Catholic section of the population explained that there was the St. Andrew's Benefit Society to which rich and poor Roman Catholics subscribed, the latter so that they might get medical assistance and the former to help by their subscriptions. But this organisation was not locally strong enough to be recognised under the Act till it federated with other similar bodies in other parts of Scotland. Now that many members of this society are insured their medical officer testified to me that the work was much better regulated. In his experience he found that the insured persons carried out loyally the rules put down by the Insurance Commissioners, and were anxious not to cause unnecessary trouble. Well-paid artisans who paid a good bill nearly every year would now be lost, but there were others who ran up a bill for a year or two and then changed the medical adviser but never paid. These bad debts were now a melancholy memory of the past. These, the authors of bad debts, were all paying now insurance money. The incomes of the profession would undoubtedly increase, but so would the amount of work that they had to do. The practitioner would have more cash in hand—that was sure; whether the increase of income would be in proportion to the increased amount of work that has to be done was quite another matter. It was too soon to form an opinion, Certainly he had quite a number of patients who had told him they were ashamed to take medical benefits and were offering to pay the usual fees. There was one great good he anticipated from the Act; it struck a heavy blow at the trade in patent medicines. Many people who could not pay for medical advice read advertisements of patent medicines and drugged themselves. Now, instead of trusting to advertisements and spending what little money they could afford on the drugs advertised, they would consult their panel doctor. This meant more work for the profession, and the general increase of work had its evil side because it left no time for study. "Medicine was likely to come to a standstill." How many panel doctors were able to find time today to read a medical journal or book, and even when they held branch, divisional, or any other sort of meetings, they no longer talked medicine but insurance. In spite, however, of all these criticisms there was not the bitter feeling against the Act I have noticed elsewhere. Some were convinced that, on the whole, the Act was going to do good; and others were not sure that the evil it was likely to occasion would overbalance the good it would accomplish.

(To be continued.)

THE INTERNATIONAL CONGRESS ON PHYSIOTHERAPEUTICS.

(FROM OUR SPECIAL CORRESPONDENT.)

THE International Congress on Physiotherapeutics was opened in Berlin on March 26th. The inaugural meeting was held in the great hall of the Reichstag, Professor His being in the chair. The meeting was attended by the patron of the Congress, H.R.H. Prince August Wilhelm of Prussia. The number of foreign delegates was especially great. The British army medical department was represented by Director-General Sir W. Launcelot Gubbins and Major C. E. Pollock, R.A.M.C., the Royal College of Physicians by Dr. Archibald E. Garrod, and the Royal Society of Medicine by Dr. Reginald Morton and Mr. William Deane Butcher.

The PRESIDENT, in his inaugural address, said that physiotherapeutics were already highly developed in ancient times, especially during the Roman Empire, but that they had been neglected with the decrease of general culture in the early Middle Ages. In more recent times the study of anatomy, physiology, and pathology was the principal feature of medicine, and therapy was relegated somewhat to the background, and although certain physical methods continued to be cultivated by laymen, these methods were based upon mere empiricism; and experience without scientific research must naturally lead to uncritical proceedings. Medical science, however, had once more realised the great therapeutic value of physical agents. Only with reluctance did Science approach the methods of physiotherapeutics, but once having done so she had given them an irresistible impetus. There was scarcely one disease that could escape their influence. She found stupendous tasks in the struggle against tuberculosis and cancer, against infant mortality, and disturbance of growth. These methods dominated the therapeutics of metabolism and nutrition, but they also found a satisfying field of activity in numerous ailments, to recognise the earliest beginnings of which was the prerogative of medical science of to-day.

The business of the Congress was begun in general meeting, the subject for discussion being

The Therapy of the Troubles of Circulation.

Professor OTFRIED MULLER, of Tübingen, discussed the balneotherapy of these conditions. He said that a distinction must be made between the action of balneotherapy on the heart and on the vessels. The carbonic acid baths acted on both the heart and the vessels. Carbonic acid increased the number of the heart beats and the quantity of blood moved at each beat, and the vessels became either dilated or contracted according to the temperature of the water. Cool carbonic acid baths increased the quantity of blood but retarded the cardiac action; the heart worked more slowly, but more forcibly and more equably; the peripheral arteries became contracted, and those of the interior dilated; the blood pressure became higher and the respiration deeper, so that congestions were compensated. A carbonic acid bath was like a gymnastic lesson for the heart. In the hot bath the blood pressure decreased, the heart had less work, and thus was spared. Tepid baths produced a slight increase of the number of heart beats without a marked influence on the blood stream, and such baths should therefore be administered at the beginning of treatment.

Professor VAQUEZ, of Paris, spoke on the dietetics of circulatory troubles, and said that in arterio-sclerosis and increased blood pressure troubles of the circulation might be avoided by proper food. Patients suffering from arterio-sclerosis should eat rather little, avoiding as much as possible meat and salt. In severer cases vegetable food and milk were indicated; when troubles of circulation became obvious meat should be totally done away with. Patients with cardiac diseases should avoid salt, albuminous substances, and too large a quantity of fluid.

Dr. ZANDER, of Stockholm, spoke on the mechanotherapy of troubles of the circulation. He was of opinion that by gymnastic exercises the circulation in the lungs was rendered easier, so that more oxygen was absorbed by the muscles. The mechanotherapy thus acted less on the centre and more on the periphery of the circulation.

The Diet in Gout.

This was the subject of a paper read by Professor MINKOWSKI. He explained that the diet in gout must be free from purin substances, which produced an increase of uric acid. Purin was a production of the cell nucleus. The greater the quantity of cell nuclei the more uric acid was produced. Calf thymus contained ten times more purin substances than meat, milk only one-hundredth the quantity. Eggs, caviare, bread, potatoes, and rice were nearly free of purin; leguminous vegetables contained the same quantity of purin as meat; while a litre of beer contained as much purin as 100 grammes of meat.

Dr. A. E. GARROD said that he preferred a food with a small quantity of purin to a food without purin; a total withdrawal of these substances could not be borne for more than a short time without serious inconvenience and harm to the patient. He considered that the success of dietetic treatment was much exaggerated.

The Diet in Diabetes.

On this subject Professor VON NOORDEN, of Vienna, said that many patients could not bear the total withdrawal of carbohydrates and the reduction of albuminous substances in the food; sometimes this diet led to acidosis. In these cases oatmeal was indicated; other carbohydrates, such as lentils or wheat flour, were equally valuable, but he was of opinion that oatmeal had a specific action, the reason for which was as yet unknown. In severe cases of acidosis the administration of alkali was indicated. The value of mineral waters was much exaggerated.

Dr. LABBÉ, of Paris, recommended vegetable cures, alternating with days of fasting and days with albuminous diet, to avoid acidosis.

Dr. BLUM, of Strasburg, said that oatmeal was indicated in cases with imminent coma, in cases with troubles of digestion, and in cases where the sugar did not disappear on the withdrawal of carbohydrates.

The great number of papers and reports read before the Congress makes it impossible even to give the names of all the papers and speakers. It may be mentioned that in the Balneological Section Professor MACHE read a paper on the Absorption of Radium by Drinking and Inhalation Cures; Dr. MORTON, of London, spoke on the Use of Filters in Radio-therapy; and Mr. DEANE BUTCHER on the Rationale of Roentgen- and Radio-therapy. In the Section of Kinesitherapy Mr. R. C. ELMSLIE, of London, read a paper on the Physical Treatment of Tuberculosis of the Joints.

THE GERMAN CONGRESS ON ORTHOPÆDIC SURGERY.

(FROM OUR SPECIAL CORRESPONDENT.)

THE German Congress on Orthopædic Surgery was held in Berlin on March 24th and 25th, Professor SPITZY, of Graz, being in the chair. The principal subject of discussion was

Chronic Deforming Arthritis.

Professor KRAUS, of Berlin, gave a detailed description of the symptoms and the pathology of this disease. He distinguished an atrophic and a hypertrophic form according to the skiagram. Clinically, there are three different forms: infectious arthritis ensuing on tonsillitis or gonorrhœa, uric arthritis, and rheumatic gout. He concluded from his experiences that in the secondary symptoms radium preparations, including thorium X, have a curative action. Adrenalin is valuable in chronic infectious arthritis.

Dr. PONCET, of Lyons, said that some forms of chronic rheumatic arthritis were of tuberculous nature, as was proved by their association with tuberculosis in other organs and the reaction after tuberculin injection. Radium had no effect, but good results were obtained by heliotherapy.

Dr. IBRAHIM, of Munich, spoke on chronic arthritis in the juvenile age, and gave a description of this disease, of which the etiology is still rather obscure. He also believed that some cases were tuberculous.

Dr. PREISER, of Hamburg, spoke on the orthopædic treatment. He said that secondary alteration after progressive destruction must be treated by appliances after tenotomy. In angular ankylosis linear or cuneiform osteotomy was indicated. Plastic operation on the joints must be limited to gonorrhœic arthritis of the elbow or the knee. The rachitic pelvis produced in adolescence by over-exertion in standing, walking, and lifting heavy weights might lead to differences in the knee-joints and eventually to flat-foot. Contractions of the hip-joint must be treated by *brisement forcé*, and eventually by osteotomy.

Dr. PERTHES, of Leipsic, was of opinion that juvenile osteo-arthritis coxæ was caused by a focus of softening in the neck of the femur.

Dr. SCHAWN, of Werde, believed that arthritis deformans was a tuberculous process, which developed in advanced age and after abnormal exertion of the joint.

Dr. BADE, of Hanover, reported that he had seen in 71 of 131 cases of dislocation of the hip-joint after the setting a division of the epiphysis and anomalies of ossification on the head of the femur; these alterations were probably due to rachitis or osteomalacia, but not to arthritis.

Dr. AXHAUSEN, of Berlin, reported that he had produced by electrolysis on the cartilages of the joints the same alterations as those characteristic of deforming arthritis. He thus believed that necrosis of the cartilages was the cause of the disease.

The Non-operative Treatment of Pseudarthrosis of the Neck of the Femur.

Professor LORENZ, of Vienna, speaking on this subject, said that in patients until the age of 40, whose accident had occurred not longer than two months previously, the joint, after energetic mobilisation, was fixed by a plaster bandage in strong abduction and inward rotation. After three months the abduction became diminished and a Hessing splint was applied for one year. In patients whose accident had occurred three or four years previously the joint was mobilised and a raised sole applied. They might then walk a few days later. The results were very good.

The Treatment of Sciatica.

Dr. STOFFEL, of Mannheim, read a paper on the treatment of sciatica. He said that sciatica meant an affection of the sensory tracts of the nerve. After these tracts had been accurately made out they were exposed for a distance of 15 cm., and a resection was practised. The ascending degeneration which ensued on the operation led to good results.

Tendon-transplantation in Infantile Paralysis.

Dr. STOFFEL also spoke on transplantation of tendons in infantile paralysis. He said that the transplanted muscle must have the same anatomical structure as the paralysed muscle; tension or retraction must be avoided; the transplanted muscle cannot be used at the same time for a correction of the deformity.

Bone Implantation.

Dr. BRANDES, of Kiel, recommended the treatment of defects of the tibia by implanting the fibula at two operations into the remainder of the tibia, maintaining on each occasion a connexion with the proximal or distal end of the fibula.

Dr. PELTESOHN reported that he had bridged a defect of the ulna, with dislocation of the head of the radius, by implanting a piece of the fibula. The piece had completely grown together with the ulna. The function was good. The fibula had regenerated.

Other papers read before the Congress concerned the Treatment of Scoliosis, by Dr. E. G. ABBOTT, of Portland, Maine, U.S.A.; the Anatomy of Spina Bifida, by Dr. CRAMER, of Cologne; the Treatment of Hallux Varus, by Dr. LUDLOFF, of Breslau, and others.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Certification Scheme.

UP to the time of writing the Insurance Commissioners have not made known how they propose to deal with certification in those areas where medical men have refrained from putting their names on the certification panels—that is to say, in by far the greater part of the country. Threats have been thrown out of appointing salaried officers to carry out the work, but it would be difficult or impossible to establish an effective scheme on such lines. A circular letter was issued a week ago by the Commissioners to medical men who had put their names on the panels declaring that, as arrangements had taken longer than was expected, the panels could not yet be published. It was added that capitation fees would be paid to medical men on the panels in respect of each insured person to whom they would furnish certificates under the Act, as well as for those who might subsequently select them as their panel doctors. The Commissioners appear also to contemplate removing from some of the Insurance Committees the administration of the panel scheme. Last week a deputation of the Conjoint Committee discussed with the Commissioners the Regulations governing certification, apart from questions of finance, and the Commissioners agreed to make certain amendments to meet the views of the profession. The Commissioners have also in hand the preparation of a scheme for payment for certificates under the National Insurance Act required at hospitals, no provision having been made for this in the panel scheme.

Sudden Death of a Dublin Physician.

The death occurred suddenly on April 7th of Dr. W. R. Evans, a respected member of the medical profession in Dublin. He had just finished addressing a religious meeting when he was noticed to be ill, and death occurred in a few minutes. Some hours later his sister succumbed as a result of the shock of her brother's death. Dr. Evans had practised in Dublin for over 40 years, and for some time was physician to the Orthopædic Hospital.

Free Choice of Doctor in Belfast.

There seems to be a tendency on the part of some of the Approved Societies to limit the free choice of doctor. The matter came up at a meeting of the Belfast Local Medical Committee on April 10th, when a letter was brought before those present which had been sent out by the secretary of one of these societies stating that the society he represented was recommending the names of several doctors whose certificates in the past they have found they could rely upon, and in whom they have perfect confidence, as those from whom certificates would be received, and asking those to whom the letter was sent to join. A resolution was passed and has been sent to the public press protesting against such action on the part of Approved Societies, and pointing out to the insured that they had all the right of free choice of doctors on the panel. The secretary of the Local Medical Committee was instructed to send a note to the members of the profession in Belfast warning them to have nothing to do with such requests from any Approved Societies. He was also instructed to write to the Irish Insurance Commissioners and to the Belfast Insurance Committee drawing their attention to this attempt to make limited panels. It seems that in Belfast, as in other places, a difficulty is likely to arise in regard to those insured patients who have not chosen a doctor as to how they are to be allotted; the easiest way will be, as has been suggested, to divide them among the practitioners by a combined body consisting of representatives of the Insurance Committee and the Local Medical Committee.

Infectious Disease in Belfast.

Typhoid fever, which it was hoped had disappeared from Belfast where in former years it was endemic, has again become prevalent, as in January of 1913 there were 10 notifications, in February 16, and in March 13. Since October 600 cases of scarlet fever have been reported and more than 300 cases of diphtheria (154 were notified in March). In February and March 13 deaths occurred from scarlet fever, 2 from typhoid fever, 14 from diphtheria, 77 from measles, and 12 from whooping-cough. During the same period 148 deaths were due to pulmonary tuberculosis.

The late Dr. Cecil Edward Shaw.

It is with sincere regret that I announce the death, after a long illness, at his residence in Belfast on April 10th, from pernicious anæmia, of Dr. Cecil Shaw. Dr. Shaw, who was in his fiftieth year, was the youngest son of the Rev. George Shaw, a well-known Belfast clergyman. Educated at the Royal Academical Institution, Belfast, and at Queen's College, he graduated both in arts and in medicine (he obtained the M.D. in 1887) in the Queen's University of Ireland. Deciding afterwards to specialise in the departments of the eye, ear, and throat, Dr. Shaw studied in London, Marburg, Vienna, and Paris, and subsequently began practice in Belfast, where he was appointed ophthalmic surgeon to the Mater Infirmorum Hospital, and assistant surgeon to the Belfast Ophthalmic Hospital, and on the death of Dr. W. A. McKeown he was selected as lecturer in ophthalmology in Queen's College, now the Queen's University of Belfast. Dr. Shaw was a man of wide culture and one of the best amateur photographers in the north of Ireland. Thoroughly conversant with the literature and practice of his own specialty, he gave the greatest personal attention to his hospital and university work, while among his private patients he was most popular. Dr. Shaw was married, but had no family. Sincere sympathy is felt for his widow.

April 15th.

Obituary.

SIR HENRY ROSBOROUGH SWANZY, HON. M.D. DUB., HON. D.SC. SHEFFIELD, F.R.C.S. IREL.,

LATE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND; SURGEON TO THE ROYAL VICTORIA EYE AND EAR HOSPITAL, DUBLIN.

SIR HENRY SWANZY, HON. M.D. DUB., HON. D.SC. SHEFFIELD, F.R.C.S. IREL.

(From a photograph by Messrs Elliott and Fry, Limited, London.)

Sir Henry Swanzy died at his residence, 23, Merrion-square, Dublin, last Saturday evening, after a few days' illness. He had been suffering for some days with influenza, when heart failure occurred. Few of his colleagues had heard of his illness, and the news of his death, appearing in Monday's papers, gave rise to surprise and sorrow.

Henry Swanzy was born in 1844, the son of a Freeman of the City of Dublin. He was educated in Trinity College, Dublin, where he graduated M.B. in 1865, becoming a Licentiate of the Royal College of Surgeons in the following year. After graduation he spent several years in study abroad, working chiefly at Berlin and Vienna. He was for some time assistant to von Graefe, and he served as surgeon in the Prussian army in the campaign of 1866. Returning to Dublin, he devoted himself to practice as oculist and aurist. He became a Fellow of the Royal College of Surgeons in 1873, and ever since was much interested in the affairs of that corporation. He joined the staff of the National Eye and Ear Infirmary, which some 16 or 17 years ago amalgamated with St. Mark's Ophthalmic Hospital to form the Royal Victoria Eye and Ear Hospital. The union was brought about to a great extent by Swanzy's influence, and he devoted himself heartily to the task of collecting funds for the fine building which now houses the institution. He was for many years ophthalmic surgeon to the Adelaide Hospital.

In later years honours came thick on Swanzy. His own University conferred on him the honorary degree of M.D., and the University of Sheffield that of D.Sc. He was Bowman Lecturer in 1888. His position was recognised by the medical profession in a marked manner, when in 1897 he was elected president of the Ophthalmological Society of the United Kingdom, a post which he held for two years. He was president of the Royal College of Surgeons in Ireland from 1906 to 1908, and was universally allowed to have discharged his office with efficiency and dignity. In January, 1907, he received the honour of knighthood. In 1911 he was selected as president of the Ophthalmological Section of the International Congress of Medicine which is to meet in London next August, and his loss from the deliberations of that gathering will be felt by many of the foreign representatives, as his work was well known and much appreciated on the continent.

To the literature of ophthalmology he contributed much, and the tenth edition of the well-known "Handbook of Diseases of the Eye and their Treatment," written conjointly with Dr. Louis Werner, was reviewed in our columns as recently as May of last year. The merits of this text-book were recognised on its first appearance and for a long time, despite the increase of ophthalmological knowledge and the consequent difficulty in keeping pace with it in any text-book, the author produced edition after edition unaided. Dr. Werner's name appears on the title page for the first time in 1907, when the book had reached its ninth edition. Hitherto it had been essentially a student's book, but much new matter was added to the ninth edition, and many rare conditions were treated with greater fulness. In many ways the tenth, and last, edition was again an improvement, and we may be permitted to hope that this will prove one of those manuals which long survive the man who originally planned them. Swanzy was also the author of the article on Eye Diseases and Eye Symptoms in their Relation to Organic Diseases of the Brain and Spinal Cord in the "System of Diseases of the Eye," by British and foreign authors, published in London and Philadelphia, and contributed many valuable papers to the Reports of the Ophthalmological Society.

Swanzy's personal character was as rare as his scientific attainments. Intelligence, quickness of perception, judgment, struck even the casual observer. But to those who knew him the prevailing characteristic was his single-mindedness. Whatever his object was—the treatment of a patient, the
success of hi
he was a Fel
anything to
stupidity, ar

and his tongue was sharp when roused. But he bore no rancour, and he was always ready with generous excuses for the failings of others. His keen humour brightened many a dull debate.

Swanzy had a deep love of science, of his profession, and in particular of the Dublin School of Medicine. He maintained a high scientific standard in his own work, and expected as much from others. In recent years he spent much time in the work of the Research Defence Society and was one of the honorary secretaries of the Dublin branch. He was one of the most industrious workers on the Council of the Royal College of Surgeons. Last year he devoted much time to the arrangements for the bicentenary festival of the Medical School of Trinity College, and he was one of the honorary treasurers of the fund which is being raised to perpetuate the memory of that occasion.

He married Mary Knox, the eldest daughter of Dr. John Denham, and granddaughter of the late Major F. A. S. Knox, R.A., by whom he had three daughters.

In the death of Sir Henry Swanzy we have lost one of whom the profession had reason to be proud, not only as a man of science and a surgeon, but still more as a man of high character and noble ideals, in whom there was nothing petty.

CHARLES TOZER SAVORY, M.D. ST. AND., M.R.C.S. ENG., L.S.A.

Dr. C. T. Savory, who died on March 27th, was born in 1829 in the City of London. He was educated at Ramsgate, and was originally intended for a commercial life. Thus he did not commence the study of medicine until his 30th year. He was probably largely influenced to this course by the brilliant example of his elder brother, the late Sir William Savory, who was thrice President of the Royal College of Surgeons of England. Charles Savory was a student at St. Bartholomew's Hospital, and in 1862 became a Member of the College of Surgeons and a Licentiate of the Society of Apothecaries. He afterwards graduated at the University of St. Andrews. He practised for 45 years in Stoke Newington and Canonbury in partnership with the late Mr. Edmund Pettifer, who had been a fellow student with him at St. Bartholomew's Hospital. He retired from practice about six or seven years ago, and the last years of his life were spent in retirement at his residence at Crouch End, where he died at the ripe age of 83, having outlived most of his contemporaries.

Dr. Savory was twice married and leaves a numerous family. He was a man of wide reading and culture, charitable and unostentatious; of handsome and dignified presence, he bore a close resemblance to his better-known brother. He w[illegible] host and a polished and witty *conversationalis[illegible]*

DEATHS OF [illegible] FOREIGN MEDICAL MEN.—The
deaths of the [illegible] minent foreign medical men are
announced:—D[illegible] li Cohen, of Utrecht, chief
inspector of h[illegible] orth Holland. He studied in
Groningen, wh[illegible] assistant [illegible] Professor Fokker
for many years, [illegible] rsity [illegible] hygiene, and
afterwards [illegible] Cent[illegible] ne Laboratory
Utrecht. He [illegible] f age.—[illegible] A. Westhoff,
dical director [illegible], Bandoeng,
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lot.—Dr. [illegible], of [illegible], a great
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sus [illegible] wich [illegible] burg.—Dr.
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tkin [illegible] embryology
ry [illegible] —Dr. John
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PARIS.

(FROM OUR OWN CORRESPONDENT.)

An Unsuspected Danger to School Children.

HYGIENISTS are directing their attention to a hitherto unsuspected source of danger to health. In the public schools it is customary to reward good work and good conduct with crosses or medals, which are worn by the boys—and especially girls—to whom they are awarded. Daily or weekly, according to the regulations of the particular school, these badges change hands on fresh award. As for the most part the children are not content merely to wear them, but contract the habit of sucking and biting them, they afford a sure and easy method for the transmission of infections.

Emetine in the Treatment of Amœbiasis.

At the Société Médicale des Hôpitaux on April 4th M. Dopter brought forward some new facts concerning the remarkable efficacy of emetine hydrochlorate in a case of hepatic abscess and of many sufferers from amœbic dysentery. A patient, invalided home from Indo-China, entered Val-de-Grâce for an abscess of the liver, the first symptoms of which made their appearance in October. On making an incision it was found that the abscess had burrowed into the subcutaneous cellular tissue, where it formed a button-shaped abscess. On opening the latter a large hepatic pouch was found, from which escaped about a litre of characteristic chocolate-like pus, which was found on microscopic examination to contain some amœbæ of dysentery. The examination of a fragment of the wall of this cyst revealed numerous similar parasites. That day and on the following days 0·04 gramme of emetine hydrochlorate was injected under the skin of the thigh. As a result of this treatment the discharge of pus quickly subsided, so that at the end of about a wee[illegible] no longer soiled. At the same time the [illegible] ondition, which had been very precarious, rapidly improved. M. Dopter related three other cases of amœbic dysentery of several months'—one of them, indeed, of two years'—duration, in which the use of emetine in like manner caused rapid disappearance of the colic, the tenesmus, and the muco-sanguineous stools, the stools rapidly recovering their normal character. A cure was effected in a few days. Emetine, said M. Dopter, deserves extensive employment in the colonies, especially where intestinal or hepatic amœbiasis carries off yearly a great number of victims.

Medical Study Travel.

The thirteenth Voyage d'Études Médicales to the mineral waters and climatic stations of France will take place from August 25th to Sept. 6th next, under the presidency of Professor Landouzy, doyen of the Faculty of Medicine. It will take in the stations of the South-West of France in the following order: Arcachon, Dax, Biarritz, Hendaye, Cambo, Salies de Béarn, Pau, Saint-Christau, Eaux-Bonnes, Eaux-Chaudes, Argelès, Barèges, Saint-Sauveur, Gavarnie, Cauterets, Bagnères de Bigorre, Capvern, Barbazan, Siradan, Bagnères de Luchon. Several bursaries have already been offered to the Voyage d'Études Médicales of 1913 by Professor Henrot, and the Sociétés des Eaux Minérales of Evian-Cachat, Pougues, Vichy, and Vittel-Grande Source. Further information can be obtained from Dr. Carron de la Carrière, Rue de Bagnolet 24, or from Dr. Jouaust, Rue Frédéric-Bastiat 4, Paris.

Sleeping Sickness.

An important meeting, which was attended by many eminent medical men, by delegates from the Ministries of the Colonies, and by high officials and agriculturists of Africa, took place recently at the Union Coloniale to discuss means for fighting against the sleeping sickness in Equatorial Africa. Dr. Aubert, director of the Institut Pasteur of Brazzaville, made some comparatively reassuring observations. For a considerable time the disease has ravaged Africa, destroying entire populations. But in the past four years we have ceased to be entirely defenceless against it. By injections of atoxyl it has been found possible to immunise patients for some months, so that for this period they cease to be sources of contagion. Moreover, two remedies, both derivatives of arsenic, which appear to produce a complete cure, hitherto unattainable, are being experimented with. Dr. Mouleyrat announced that he would place specimens of these products at the disposition of colonial medical officers who wished to make trial of them. Resolutions were passed at the meeting urging the necessity for increasing the number of medical men in Equatorial Africa, for even if the means exist for fighting this scourge the colony almost entirely lacks medical men to apply them. The stringent application of the regulations regarding sanitary passports was recommended, for the sufferer, if allowed to travel, spreads the disease. In the regions most affected delimitation of areas to be placed each under the supervision of a medical man is urged. This medical man should cause the entire administrative routine to be subordinated to the necessity for caring for these patients. Since the physiologically poor condition of the natives predisposes them to the disease, all measures fitted to improve their nourishment and general condition should be taken. In particular the meeting showed itself very favourably disposed towards the establishment of small land holdings among them.

Migraine of Ethmoidal Origin.

Before the Academy of Medicine, on April 8th, M. Guisez showed that in nearly 70 cases in which persons had suffered for many years from attacks of headache that resisted all medical treatment, regimen, and even nerve resection, he had found the cause of these migraines to be certain malformations sharply limited to the middle and upper part of the nose in the ethmoidal region. The attacks always began near the fronto-nasal region, around the root of the nose or immediately above the eyeballs, and the pain was always more marked on one side than the other. The pain subsequently became generalised all over the head, being most marked, however, in the frontal region. The attacks often lasted 24 hours, sometimes with nausea and vomiting, and might lead to a condition of profound organic degeneration. Examination of the nose showed hypertrophy of the middle turbinated or of the bulla of the ethmoid. The nasal bone might be pushed outwards. The mucosa was sometimes in a state of myxomatous degeneration, and polypi filled the middle meatus. A cure was obtained by simple local treatment—resection under local anæsthesia of the head of the middle turbinated bone, of the ethmoidal bulla, and removal of polypi—that is, of everything tending to enlarge the region of the upper and middle meatus.

April 15th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Number and Distribution of Medical Students in Austria.

THE total number of medical students in the Austrian universities was 6439 in the last winter half-year, or about 24 per cent. of the total number of university students in this country. The distribution of these medical students among the several universities was as follows: in Vienna, 2824, with 160 females; in Graz, 572, with 12 females; in Innsbruck, 350, with 3 females; in Prague, 572 German and 932 Bohemian students, with 71 females; in the Polish University of Lemberg, 523 males and 106 females; and in the Polish University of Cracow, 529 males and 62 females. In Czernowitz there were no medical students. It is interesting to note that the number of medical students, and especially of female medical students, has been constantly increasing for more than ten years. Whilst the general population has been increasing about 2 per cent. per annum, or 20 per cent. within the last decade, the total number of medical students has gone up by 150 per cent in the same time, and the female medical students have increased by over 400 per cent. On the other hand, the number of foreign students is going down constantly, mostly for political reasons, because Russian and Balkan students formerly flocked to Vienna, but holders of American and English diplomas come here in increasing num[illegible]. The figures mentioned above [illegible] n interesting step by the med[illegible] of Medical Councils have given public notice that the medical profession will soon be more than overcrowded, and have asked all the authorities concerned in the management of schools, as well as other public corporations, to warn pupils from taking up this line of study if they intend to follow medical practice as a means of livelihood. They have also explained that at present it takes at least five years to obtain permission to pass the final examinations, which themselves occupy half a year, and a student must afterwards spend at least another two years in hospital study, making 28 years the minimum age at which a practitioner can commence to earn his living. It is accordingly pointed out that the financial prospects for the medical profession will be less than moderate during the next 10 or 15 years, so that unless intending medical students have at least the expectation of an independent income they would do well to take up some other occupation.

Compulsory Vaccination in the New Austrian Provinces.

The administrative authorities of Bosnia and Herzegovina, the Balkan provinces acquired by Austria a few years ago, have passed a law making vaccination compulsory. Every child living in these two provinces, the population of which is nearly 2,000,000, must be vaccinated before it is 2 years old, only such children being exempted as have either had small-pox or are too ill to have the operation performed. Every child must be revaccinated in the eighth year of its age. If the operation is unsuccessful it must be repeated in the following year, and if again unsuccessful it must be repeated two years later. Every case of vaccination must be notified to the Board of Health and the officers of public health. This law has been passed because a large number of immigrants from the area affected by the Balkan war have come into Austria and have frequently been the means of introducing small-pox.

Professor Kraus.

The well-known bacteriologist, Professor Rudolf Kraus, head of the Serotherapeutic Institute in Vienna, has accepted an invitation to become director of the Institute for Infectious Diseases in Buenos Aires. His duties will be similar to those he has performed in Vienna, for the institute will prepare protective and prophylactic substances for use in connexion with infectious diseases affecting both man and the lower animals. He will also have to organise general measures for the prevention of these diseases. His departure will be a serious loss for our university. He is an eminent authority on the problems of immunity, and not long ago, on the invitation of the King of Bulgaria, he visited the seat of war in the Balkan area for the purpose of advising the military authorities with regard to the prevention of cholera. Professor Kraus will start for his new sphere of work in the month of June or July.

A Peculiar Case of Cerebral Disease.

At a recent meeting of the Vienna Gesellschaft der Aerzte Professor Benedikt showed a female patient, 48 years old, who had been brought to him with symptoms of deafness and paresis of the extremities on the left side. She was mentally unstable; her right ear completely deaf, and her left ear partly so. Sensation of temperature was diminished; the glands behind the sternomastoid muscle were enlarged on both sides, and glands elsewhere could be palpated. Professor Benedikt said that the chief interest of the case was in the contralateral coexistence of deafness and paresis of the limbs, and in the fact that the gait, the position of the fingers and of the whole body, as well as a tendency to propulsion, were very similar to the syndrome found in paralysis agitans. He considered that the combination of symptoms existing in this patient was not necessarily of syphilitic origin, although she had had several miscarriages and a positive Wassermann reaction had been obtained from her. In his opinion too much importance was attached to this serum reaction in cases of tabes and general paralysis of the insane, much to the detriment of the patient. In the patient whom he was showing he suspected cancer in the brain, since a tuberculous nodule could be excluded, and he ordered the administration of ortho-silicate, which has lately been so much advocated in the treatment of cancer. The result was most favourable, for within three months the patient was much improved in every respect, and even her mental activity has been restored. He also reported some experiments with the same treatment in cases of long-standing syphilis in which the central nervous system was attacked (syphilitic hemiplegia), the results being also excellent, and he emphasised the necessity of treating patients *operated* on [illegible]. The same substance in order to prevent recurrence. He gave doses up to 2 centigrammes (one-third of a grain) dissolved in 1 gramme of distilled water per day.

April 12th.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

The late Dr. Prince Albert Morrow, of New York.

Dr. Prince Albert Morrow, the dermatologist and syphilologist, but perhaps even more widely known for his studies in sex hygiene and as a founder of the American Society of Sanitary and Moral Prophylaxis, died suddenly at his home in New York on March 17th, at the age of 66. He was a native of Kentucky, and was educated at Princeton College and at the New York University. He took his A.B. at the former College in 1865 and his M.D. at the latter University in 1874. From 1884–1904 he was attending surgeon at the City Hospital, New York. He was appointed lecturer on dermatology in 1882–3, clinical professor of venereal diseases in 1884, and of genito-urinary diseases in 1886. In 1890 he became emeritus professor of the University and Bellevue Hospital Medical College. For 14 years he was attending physician in the skin and venereal diseases department of the New York Hospital. He was also consulting dermatologist to the St. Vincent's and the City Hospitals. In 1907 he was chairman of the section on hygiene and sanitary science of the American Medical Association, having previously (1890–91) been president of the American Dermatological Association. He had been also president of the American Society of Sanitary and Moral Prophylaxis since its foundation in 1905. Dr. Morrow's literary work includes the editorship of the *Journal of Cutaneous and Venereal Diseases*, of which he was one of the founders, from 1882 to 1892. In 1888 he published an "Atlas of Skin and Venereal Diseases," and in 1892 "A System of Genito-urinary Diseases, Syphilology, and Dermatology," in three volumes. To these must be added a monograph on Leprosy (1899), and particularly his work on "Social Diseases and Marriage," which appeared in 1904.

Woody Phlegmon.

In a paper read before the Chicago Medical Society on Feb. 19th last, and reported in the *Journal of the American Medical Association* of April 5th, Dr. W. W. Grant, of Denver, says that it is probable that this disease occurs under some name or form more frequently than has been reported. Its literature is mostly recent, and is reviewed by Grant, who reports two cases in which the phlegmon occurred on the abdominal wall. In both cases bacteriologic examinations were made and staphylococcic infection determined. The cancerous theory will probably soon be abandoned, and, he says, with our existing knowledge, we are justified in concluding that the disease generally occurs after middle life in persons whose resistance has been impaired by previous ill health. The immediate cause is a slow infective process with or without trauma. The dictum of Reclus that it is not due to specific bacteria, but to a variety of germs of mild virulence, seems confirmed. The staphylococci seem to be the chief offenders. The usually slow and protracted course and final resolution are characteristic. Hyperleukocytosis always exists. Grant concludes that the disease will be cured more quickly and completely by free incision (not excision) and serum treatment than by any or all other means known at the present time, and early diagnosis will make the cures more frequent and rapid.

The Eugenics Record Office.

This office was established at Cold Spring Harbour, Long Island, in October, 1910, by Mrs. E. H. Harriman, with the assistance of Mr. John D. Rockefeller, and has recently entered upon a new stage of its development. A board of scientific directors has been organised, comprising Dr. Alexander Graham Bell, chairman; Dr. William H. Welch, professor of pathology, Johns Hopkins Hospital, vice-chairman; Professor Irving Fisher, Yale University; Professor Lewellys Barker, of Johns Hopkins Hospital; Professor E. E. Southard, of Harvard University, and director of the Psychopathic Hospital, Boston; and Dr. C. B. Davenport, secretary of the board and resident director. The board met at Cold Spring Harbour on March 21st and organised its work. The aim of the Eugenics Record Office was defined to be as follows. First, to promote researches in eugenics that shall be of utility to the human race. This part of the programme includes: the study of America's most effective blood lines, and the methods of securing the preponderance and relative increase of the best strains; the study of the origin of, and the best methods of restricting, the strains that produce the defective and delinquent classes of the community; the study of the method of inheritance of particular traits; the study of the consequences of the marriages of close kin; the study of miscegenation in the United States; the study both in this country and abroad of the family histories of permanent immigrants. Second, to publish the results of these researches. Third, to provide a fireproof building for the preservation of eugenical records, including genealogical works and town histories. Fourth, to provide an administrative office and staff to carry out the work. The fireproof building provided by Mrs. Harriman which is to form the new home of the office is being rapidly completed. The board of scientific directors will meet each spring at Cold Spring Harbour to consider the projects most worthy of support during the ensuing year, which begins October 1st, and it will meet again in November to receive a report of the work of the office in the preceding fiscal year. The resident director has general charge of the plant and its operations, and is authorised to ask for and receive, in the name of the board, funds to carry on the work of the office. The board voted in favour of the organisation of a eugenics research association, of which a meeting will be called early in June.

Dr. Friedmann's "Cure" for Tuberculosis.

A statement has been published by the United States Public Health Service[1] with reference to the appointing of a board of medical officers to make a thorough investigation of Dr. Friedmann's alleged cure for tuberculosis. The board has arranged for a series of demonstrations of his remedy by Dr. Friedmann in certain New York hospitals, and they are to be continued until sufficient information has been obtained for forming an opinion as to the merits of the treatment, which will require considerable time. The board has received a culture from Dr. Friedmann and will experiment with it in regard to Dr. Friedmann's claims as to its harmlessness in warm-blooded animals. The subjects for experiments are selected by the hospital authorities with their own consent from among their own patients, and only a small proportion of the available volunteers can be used. The board particularly cautions against placing any credence in statements in the press ascribed to any of its members, as no opinion has been, or will be, expressed until the work is sufficiently advanced to warrant some conclusion in the matter. The caution thus exhibited is eminently commendable, for there can be no doubt that incalculable injury is done, not only to individual patients, but to the progress of medical science, to individual remedies and methods under investigation, and to old and tried methods of undoubted service so far as they go by the optimistic enthusiasm of some press correspondents on this side.

April 8th.

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[1] Bulletin of the United States Public Health Service, March 21st, 1913.

SWANSEA MEDICAL MEN AND CONTRACT PRACTICE.—The honorary medical staff of the Swansea General and Eye Hospital have issued a communication expressing their sympathy with the medical men of Swansea and district in their endeavour to secure more adequate remuneration for contract practice than has hitherto obtained, and their surprise and indignation at learning that the just and moderate demands of their colleagues have been met with an attempt to establish in the town a medical aid association. Recognising that underpaid medical work is equally as bad for the patient as for the doctor, the staff have decided that in the event of the establishment of any society or association, having for its object the employment of medical men under conditions not approved of by the medical profession, they will under no circumstances meet in consultation or have any professional dealings with any medical man holding office under the same, whether in connexion with a patient at his own home or at the hospital. Moreover, they will decline, except in cases of the gravest emergency, to treat in hospital any member of such society. Further, the staff will adopt the same attitude towards medical men undertaking contract work on terms below those decided upon by the medical profession of any district.

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the examination in sanitary science held recently the following candidates were successful in both parts of the examination:—

Wallace Wright Adamson, Alexander Brownlee, *George Robert

John Davidson Smith, *William Templeton, Frederick Edward Apthorpe Webb, Arthur Robartes Wellington, and Leonard Stephen Willox.

* With distinction.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the quarterly examination in Practical Pharmacy held on April 10th the following candidates were approved:—

Claude Hamilton Blair Avarne, London Hospital; Arthur James Bado, St. Thomas's Hospital

Percy William Barnden, Lond

l; George Dean

iddlesex Hospital,

rbert Leslie Cronk,

Hospital, Francis

can Legge Currie,

's Hospital, Gauri

Dayal, Bombay and Manchester Universities; Sidney Barron

Cantab, Cambridge U

Arthur Rennie Muir,

Neale, *Bristol Univer*

Andrew Miller Nels

Pailthorpe, Charing

London Hospital; Tr

Arthur Norman Rusl

tholomew's Hospital,

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At a meeting of the Council of the Royal College of Surgeons on April 10th the undermentioned diplomas were conferred upon the following candidates:—

Dental Hospital.

UNIVERSITY OF LONDON.—At the Second Examination for Medical Degrees held recently the following candidates were successful:—

Part I., Organic and Ap

l Molony

Alcock, Guy's Hospital

oria Uni

versity of Manchester;

St. Mary's

Hospital; Charles Dou

Edward

Vincent Beaumont, St.

Bensted,

Guy's Hospital; John Anthony Birren, University College, Cardiff; Marian Noel Bostock, London (Royal Free Hospital) School of Medicine for Women; William Wallace King Brown,* St. Thomas's Hospital; Leslie James Forman Bull, St. Bartholomew's Hospital; Albert William Buchan Carless, King's College; Louis Arthur Celestin, University College; Clement Clapton Chesterman, University of Bristol; Allwyn Herbert Clarke,* St Thomas's Hospital; Doris May Collins, London (Royal Free Hospital) School of Medicine for Women; Julien David Constantin, St. Bartholomew's Hospital; Mervyn Clement Cooper, London Hospital; Joseph Monlas Courtney, St. Mary's Hospital, Ralph

uash, University College

l Free Hospital) School of

Robillard, Guy's Hospital,

homas Gray Dykes, Uni-

Edwards, London (Royal

Women, Thomas Stenner

uy Febrsen, London Hos-

versity College; William

an Louis Roger Fortier,

adburne Fuller, St. Mary's

Middlesex Hospital; Aziz

rman Glover and Hugh

Lake and Harold

Morgan Lewis ar

Westminster Hospital, Rustam Navroji Vakil, University College, Leonard Pengelly Waghorn, Guy's Hospital, Lotty Weihermann, London (Royal Free Hospital) School of Medicine for Women; John Prichard Williams and Oscar Williams, University College, Cardiff; Thomas Pearse Williams, Middlesex Hospital; Alfred Williams-Walker, the University and Municipal Technical School, Birmingham; Keith Montague C. Woodruff, Guy's Hospital; and William Yeoman, University College.

* Awarded a mark of distinction.

Part II.—Arthur Wilfrid Adams, University of Bristol; Hannah Katherine Alton, King's College and London (Royal Free Hospital) School of Medicine for Women; David William Jabez Andrews,*‡ Middlesex Hospital; Edgar Broughton Barnes and

Ellison, University College, Hubert Henry Lacey Emson, St. Bartholomew's Hospital, Israel Feldman, London Hospital;

UNIVERSITY OF LIVERPOOL.—At the examination for the Diploma in Tropical Medicine held recently the following candidates were successful :—

J. G. Becker, C. Forsyth, M. C. R. Grahame, K. K. Grieve, A. R. Hargreaves, P. Hiranand, O. E. Jackson, M. MacKelvie, J. McP. MacKinnon, R. J. A. Macmillan, C. E. P. Mouat-Biggs, E. Olubomi-Beckley, D. S. Puttanna, J. H. Reford, F. D. Walker, U. B. Yin, and W. A. Young.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Edmund Forster, *privat-docent* of Neurology, Dr. O. Vogt, Principal of the University Neuro-biological Institute, and Dr. Max Bielschowsky, assistant in the same institute, have been granted the title of Professor.—*Budapest:* Dr. Geza Krepuska, *privat-docent* of otology, has been promoted to Extraordinary Professor.—*Clausenburg (Kolozsvar):* Dr. Elemer Veress, extraordinary professor of biology, has been promoted to Ordinary Professor.—*Gratz:* Dr. Hermann Pfeiffer, extraordinary professor of forensic medicine, has been appointed Extraordinary Professor of General and Experimental Pathology. Dr. Johann Habermann, extraordinary professor of otology, has been promoted to Ordinary Professor.—*Heidelberg:* Dr. P. Lenard, professor of physics, will commence work as Principal of the New University Institute for Radium Research on May 1st.—*Kiel:* Dr. O. Lubarsch, professor in the Düsseldorf Academy of Practical Medicine, has been appointed to the chair of General Pathology and Pathological Anatomy, in succession to the late Dr. Heller.—*Königsberg:* Dr. Ernst Hedinger, professor in Basle, has been offered the chair of Pathological Anatomy, in succession to Dr. Henke, who goes to Breslau. Dr. Paul Bartels, *privat-docent* of anatomy, has been granted the title of Professor. Dr. Henke has been recognised as *privat-docent* of Otology, Laryngology, and Rhinology.—*Leipsic:* Dr. Tillmans, extraordinary professor of surgery, has been promoted to Ordinary Professor. Dr. Ebstein has been appointed Senior Physician of the University Medical Clinic.—*Lemberg:* Dr. Anton Jurasz, extraordinary professor of laryngology and otology, has been promoted to Ordinary Professor.—*Marburg:* Dr. F. Kirstein has been recognised as *privat-docent* of Midwifery and Gynæcology, and Dr. H. Kleinschmidt as *privat-docent* of Pædiatry.—*Padua:* Dr. U. Baratozzi and Dr. A. Farini have been recognised as *privat-docenten* of Medical Pathology, Dr. R. Cecca and Dr. G. Marchetti as *privat-docenten* of External Pathology, Dr. Megardi as *privat-docent* of Ophthalmology, and Dr. F. Silvestri as *privat-docent* of Pædiatry.—*Parma:* Dr. B. Bacchi has been recognised as *privat-docent* of Forensic Medicine.—*Pisa:* Dr. G. Bernardi has been recognised as *privat-docent* of External Pathology.—*Prague (Bohemian University):* Dr. V. Guttmann has been recognised as *privat-docent* of Otology, Laryngology, and Rhinology.—*Strasburg:* Dr. Karl Spiro, *privat-docent* of physiological chemistry, has been promoted to Honorary Professor.—*Tours:* M. Villedieu, first-class pharmacist, has been appointed Professor of Chemistry and Toxicology.—*Turin:* Dr. C. Provera has been recognised as *privat-docent* of Surgery and Operative Medicine.—*Vienna:* Dr. Ottokar Chiari, extraordinary professor of laryngology and rhinology, has been promoted to Ordinary Professor.—*Würzburg:* Dr. Köllner, assistant in the Berlin Ophthalmic Clinic, has been appointed Oberarzt of the University Ophthalmic Clinic.

DEATH FROM ANTHRAX AT WARRINGTON.—An inquest was held at Warrington on April 9th on the remains of a labourer, aged 49 years, who died from anthrax. The deceased had been employed at a tannery in Warrington, and complained that one of his eyes was feeling very sore. Two days later he was admitted to the infirmary, where it was found he was suffering from anthrax. The manager of the tannery said the deceased had been working amongst some salted African hides, in which there was no disease. It was generally the China hides which were affected. Formerly they had used hides from China. At that time the firm came under the Home Office regulations with regard to the provision of washing materials for the men. At the present time they were only treating English, African, and Madagascar hides, and they found that that class of hide did not come into contact with the disease. Mr. W. H. Seal, H.M. Inspector of Factories, said, so far as the Home Office knew, it was not anticipated that there was any danger from imported hides from Madagascar. Careful inquiries would be made, and if it were found that this class of hide was also [illegible] would be made to the Home Office i[illegible] scheduled under the special conditions which covered the importation of China hides. A verdict of "Death from anthrax" was returned.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—A dinner of this association, in connexion with the forthcoming Congress in Paris of the Royal Institute of Public Health, will be held under the presidency of Dr. Harold S. Sington at the Trocadero on Tuesday next, April 22nd, at 7 for 7.30. All graduates of the University of Brussels are welcome. Tickets (5*s.*, not including wine) may be obtained from the honorary secretary, Dr. Arthur Haydon, 23, Henrietta-street, Cavendish-square, W.

CHILDREN'S COUNTRY HOSPITAL AT HESWALL.—The annual meeting of the supporters of this hospital took place on April 10th. In the unavoidable absence of the Lord Mayor of Liverpool the chair was occupied by Alderman Leslie as deputy Lord Mayor. The committee in its annual report made a strong appeal for increased subscriptions. The institution, having for its object the treatment of children for such periods as would insure their restoration to health with the minimum amount of crippling of limbs or other organs, deserves every support, as these children, if not looked after in their young days, would later tend to become helpless drags on the community at large. Two new wards were opened by the Countess of Sefton. The extension increases the available beds to about 150, and it is intended to utilise the new wards, in part, for non-pulmonary cases of tuberculosis from Liverpool under the National Insurance Act. This latest addition to the building has cost about £7500. The ward on the upper floor, which has been named the Agnes Hunt Ward in honour of the noble work amongst sickly children performed by the lady of that name at Baschurch, is already in use, but that on the ground floor—the Holbrook Gaskell Ward—will not be ready for occupation for a few weeks. The former ward is on the open-air principle, but that on the ground floor will be reserved for children whose cases require more sheltered treatment. During the 14 years of Colonel Montgomery's energetic chairmanship £84,000 have been collected for building and for maintenance purposes, about £56,000 have been spent on buildings, and in invested funds there are about £27,000. From all sources over £14,000 were collected last year. The Countess of Sefton paid an eloquent tribute to the valuable services of Mr. Robert Jones, the honorary surgeon to the institution.

UNIVERSITY OF LONDON.—Sir William Collins and Dr. E. L. Gowlland have been appointed representatives of the University upon the governing boards of Christ's Hospital, Horsham, and the Wreight and Gibbs School, Faversham, respectively.—Dr. Arthur Robinson has been appointed Fellow of King's College.—Miss Maud Frances Forrester-Brown M.B., B.S., has been appointed to the Gilchrist Scholarship for Women.—Lectures in advanced medical subjects are to be delivered as follows: May 1st (5 P.M.), at St. Bartholomew's Hospital Medical School, Dr. M. H. Gordon, on Sensitised Vaccines; 5th (5 P.M.), at University College Hospital Medical School, Dr. T. R. Elliott, on Disease and the Suprarenal Glands; 8th (5 P.M.), at St. Bartholomew's Hospital Medical School, Dr. H. Williamson, on Some Factors of Importance in Determining the Significance of Albuminuria in Pregnancy; 19th, 21st, and 23rd (4.30 P.M.), at the London Hospital Medical College, Dr. H. M. Turnbull, on (1) Physiological and Pathological Changes in the Structure of Arteries, (2) Arterio-sclerosis; and 28th (4.30 P.M.), at the Brompton Hospital, Dr. C. H. Miller, on the Site of Tuberculous Lesions at Different Ages.—The following advanced lectures in physiology are announced to be given: A course of eight lectures on Surface Tension and Physiological Processes, by Professor A. B. Macallum, at the University, on Tuesdays, at 5 P.M., beginning on May 13th; three lectures on the Anatomy, Physiology, and Pathology of the Corpus Striatum, by Dr. S. A. Kinnier Wilson, at the University; eight lectures on the Physiology of Photosynthesis and Respiration in Plants, by Mr. E. F. Blackman, at University College, on Wednesdays, at 5 P.M., beginning on April 23rd; four lectures on the Physiology of Absorption, by Professor

T. G. Brodie, at King's College, on Wednesdays, at 4.30 P.M., beginning on May 21st; four lectures on the *Supposed Physical Basis of Life and Mind*, by Mr. J. S. Haldane, at Guy's Hospital, on Thursdays, at 4 P.M., beginning on May 8th; and eight lectures on the Factors concerned in the Volume and Form Changes of Cells (Growth and Movement), by Dr. H. E Roaf, at St Mary's Hospital Medical School, on Mondays, at 4 P.M., beginning on May 5th.

DONATIONS AND BEQUESTS.—By the will of the late Rev. C Bromley, of Maulden, Bedfordshire, the testator bequeathed £500 each to the Bedford County Hospital and the Yorkshire Home for Chronic and Incurable Diseases — Mr. John Jones, of Wrexham, has by will left £50,000 to the Wrexham Infirmary and has given for the use of the infirmary Roseneath House and grounds, Wrexham, and the Claremont Hydro, Rhyl.

HUNTERIAN SOCIETY.—The last meeting of the session will be held on Wednesday, April 23rd, at St Bartholomew's Hospital (Library), at 8.30 P.M. This will be the annual general meeting, and the election of officers for next session will be made At 9 P M the winner of the society's annual medal, Dr. A. Graham-Stewart, will read a paper, founded on his prize essay, and entitled "Raised Arterial Pressure and Arterio-Sclerosis," and the medal and certificate will be presented to him by the President

LITERARY INTELLIGENCE.—Henry Kimpton's Catalogue of Medical and Surgical Works, No. 129, for 1913, includes a number of atlases and illustrated works at reduced prices, among them the first series of the Index Catalogue of the Library of the Surgeon-General's Office, U S A. Also several medical curiosa and portraits of eminent medical men. The total number listed is 94.—Among the publications of Messrs Constable and Company, Limited, is a treatise by Mr. Walter Heape, F R S., on "Sex Antagonism," which deals among other matters with Totemism and Exogamy (including a study of Dr. Frazer's theories), Birthmarks, and Fundamental Sex Relationship.

SWISS VITAL STATISTICS FOR 1910.—In 1910 there were 96,669 births registered, a smaller number than in previous years. There were 97,296 in 1909, and 99,468 in 1908. The deaths for 1910 numbered 56,498, a percentage of 1·51 out of a total population of 3,735,049 This also constitutes a decrease in comparison with previous years—59,416 in 1909, 57,697 in 1908, and 59,252 in 1907 Tuberculosis, with 8449 deaths, heads the list with a percentage of 15: 6011 phthisis cases and 2438 of other tuberculous affections There has been no great reduction of deaths from phthisis during the last five years, the figures being 6008 (1909), 6150 (1908), 6063 (1907), and 6407 (1906) Pneumonia shows 4784 cases (8·5 per cent.), and cancer 4349 cases (7·7 per cent) The mortality from cancer during the last five years has not varied much, the figures being as follows: 4443 (1909), 4387 (1908), 4175 (1907), and 4342 (1906) Asthenia is responsible for 3599 deaths (6 4 per cent), and infantile gastro-enteritis for 2385 (4·2 per cent.) 2077 persons died in consequence of accidents (3·7 per cent), and there were 847 cases (1·5 per cent) of suicide Old age is notified in 2058 cases (3 5 per cent.) Only 150 deaths from typhoid fever were reported, and 2 fatal cases of small-pox Whooping-cough caused 741 deaths (1·3 per cent); diphtheria, 455 (0 8); measles, 352 (0 6); and scarlet fever, 100 (0 2)—the infectious diseases of childhood making together a percentage of 3.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Asylums Officers (Employment, Pensions, and Superannuation) Bill

Viscount WOLMER has reintroduced in the House of Commons his Bill "to limit the hours of employment of officers and servants in asylums and to amend the Asylum Officers Superannuation Act." It was read a first time and it has the support of Mr. CHARLES ROBERTS, Mr. STANIER, Mr WATSON RUTHERFORD, Mr. HIGHAM, Sir JOHN McCALLUM, Mr COTTON, Mr WARDLE, Mr. CHARLES CRAIG, Mr W. REDMOND, Sir DAVID BRYNMOR JONES, and Sir REGINALD POLE CAREW,

University Education in London.

The final report of the Royal Commission on University Education in London is published as a Parliamentary Blue book. A large section of it deals with the Faculty of Medicine, and most important recommendations are made in regard to it

Select Committee on Patent Medicines

Further evidence on behalf of the proprietary medicines section of the London Chamber of Commerce was submitted to the Select Committee of the House of Commons on Patent Medicines on Thursday, April 10th. Mr. E J PERRY, a consulting and analytical chemist, expressed the view that the publication of the formulæ of proprietary articles would not diminish their total sale, but would merely divert the trade from the hands of the original owners into those of imitators.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 9TH.

Medical Certificates for Sickness Benefit.

[illegible]

Malingering under the Insurance Act

Mr C BATHURST asked the Secretary to the Treasury whether he was aware that owing to the delicacy of the panel doctors position in relation to persons insured under the National Insurance Act, it was being found increasingly difficult [illegible] check malingering, and that in [illegible] appointed with this object by t[illegible] approval of the Approved Societ[illegible] Insurance Commissioners favoured the same course being adopted in other administrative areas —Mr. ROBERTSON (on behalf of Mr. MASTERMAN) answered The matters referred to in the honourable Member's question are receiving the careful attention of the Commissioners.

Sanatorium Benefit in Ireland.

Mr T M. HEALY asked the Chief Secretary to the Lord Lieutenant of Ireland whether the county and city of Cork could now reckon on receiving their share from the sanatorium grant on the basis of [illegible] support for schemes by which beds were to be taken in their sana- [illegible] plating building sanatoriums for themselves, and in respect of accommodation, whether for adults or for children, which will be available in the future for any county Insurance Committee which may apply for it, will be a final charge against the £145,000 grant as a whole The share of Cork county and city in the grant [illegible] for it and I hope it will be come to very soon

Industrial Poisoning

Mr. SNOWDEN asked the Secretary of State for the Home Department [illegible] whether and [illegible] what [illegible] advice without appeal in any case to Parliament.—Mr. McKENNA answered: The records of poisoning in different industries and (where regulations have been made) the working of the regulations are closely watched by the Department. New codes and amendments of existing codes are prepared from time to time, as experience shows the need for further precautions. For instance, recently the rules for the manufacture of pottery have been completely recast. A code for lead smelting has been made, and a Departmental Committee is now engaged i [illegible] ch-building trade. As regards the last part [illegible] ust point out that when objections are taken, [illegible] or workmen, to regulations proposed by the Home Office and in pursuance of the Factory Act, a competent person is appointed to inquire into and report upon the objections. A thorough inquiry is made, the evidence of the representatives of the department and of all parties interested who desire to be heard is taken, and the commissioner reports the conclusions at which he arrives on a consideration of the evidence. No express obligation is placed by the Act upon the department to accept the conclusions of the commissioner, but it is obvious that conclusions arrived at by an independent commissioner after an exhaustive inquiry of this kind are bound to carry, and I think were intended by Parliament to carry, very great weight.

Milk Prosecutions.

Mr. C. BATHURST asked the President of the Local Government Board whether he was aware that in the boroug [illegible] elsewhere dairymen were being prosecuted und [illegible] Acts for using derivatives of boron for the [illegible] although in strict compliance with the milk and cream regulations recently issued by the Board; and whether, if these regulations were deemed to be contrary to the provisions of an Act of Parliament, he would, in fairness to the dairymen, bring in an amending Bill to legalise such regulations.—Mr. BURNS said in reply: I am not aware of any such prosecutions, but I may point out that the regulations prohibit the use of any preservatives in milk.

Tuberculous School Children.

Mr. HOARE asked the President of the Board of Education how many schools, residential and [illegible] how many received gra [illegible] tion authorities.—Mr. J [illegible] hospitals or sanatoria pr [illegible] are certified by the Board of Education and receive grants under the Education (Defective and Epileptic Children) Act, 1899. These hospita [illegible] r the treatment of children suffering fror [illegible] are nine non-residential open-air schc [illegible] its under the Act referred to which mak [illegible] whom the majority are tuberculous. All [illegible] t of the seven hospitals or sanatoria are [illegible] authorities.

THURSDAY, APRIL 10TH.

Aged Insured Persons and Medical Benefit.

Mr. ALDEN asked the Secretary to the Treasury whether the case of the insured person over 65 years of age in respect of medical benefit would be dealt with in any Bill amending the National Insurance Act.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) replied: I do not quite understand what amendment my honourable friend proposes should be inserted in the Bill. It is competent under Section 49 of the existing Act for societies and Insurance Committees to provide medical attendance as one of the benefits for persons becoming employed contributors over the age of 65. Money was voted in the recent supplementary estimates to help societies and committees desiring to provide medical attendance for such persons by a grant of 2*s.* 6*d.* per head, and the Commissioners at the same time issued a circular stating that this grant was available, and also containing information as to the rates of sickness benefit that could be provided in addition.

Medical Benefit in London.

Mr. TOUCHE [illegible] e Treasury when it was proposed to take [illegible] equacy of medical benefit in London.—Mr. [illegible] Mr. MASTERMAN) said: I am not prepared t [illegible] underlying the honourable Member's question. I may say, however, that the London Insurance Committee have instructed their medical benefit subcommittee to report as to whether the present system of medical benefit in London could be improved and to [illegible]

Mr. TOUCHE: *Is it not* [illegible] enefit in London is hopelessly inadequate?— [illegible] cannot admit the inadequacy.

Mr. TOUCHE asked the honourable gentleman whether every person who had made application for permission to contract out under the National Insurance Act had received Form 43/IC, and whether many of these forms had been returned to the Insurance Committee for the county of London, or whether he had information that doctors were refusing to sign the undertaking in Part II. on the ground that its provisions were objectionable; and would a more acceptable form be substituted.—Mr. ROBERTSON answered: I am informed by the London Insurance Committee that the answer to the first part of the question is in the affirmative, and with regard to the second part of the question that 2000 or 3000 forms had been returned to the Committee. In some cases the doctors had refused to sign the undertaking referred to. The sums available for the medical attendance of persons making their own arrangements are the same as those of persons receiving attendance under the panel system, and the effect of the undertaking referred to is to secure that doctors treating them should render the same necessary services as doctors on the panel are required to render under the conditions attached to the payment of the Parliamentary grant. I see no reason why any modification of its terms is required.

Mr. TOUCHE: Is there any ground for the impression that the terms of that undertaking have been so drawn as to discourage contracting out?—Mr. ROBERTSON: They may have to some extent, as the conditions are the same.

Mr. TOUCHE asked whether a Local Medical Committee for the county of London had been formed and recognised in accordance with the Act; and, if so, how many doctors took part in the selection of the committee.—Mr. ROBERSON answered: No Local Medical Committee for the county of London has been recognised by the Insurance Commissioners.

Mr. TOUCHE: Does it not arise that no committee is entitled to style itself the Local Medical Committee for the county of London?—Mr. ROBERTSON: I should think so, but I am not sure.

Insured Persons at Surgeries.

Mr. TOUCHE asked the Secretary to the Treasury whether, in connexion with the administration of the National Insurance Act, due consideration had been given to the fact that it was not of advantage, either to the public health or to that of an insured patient, that he should be forced to wait, often for hours, in a grossly overcrowded room with other patients on each visit to the doctor; and if any effective measures were in contemplation to remedy this drawback.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) answered: I do not think that there is any ground for supposing that the conditions suggested in the honourable Member's question are likely to occur except in rare intervals, but if any complaints are made of this nature to an Insurance Committee it would be the duty of the Committee to take steps to remedy them.

Scottish Clerks Association and Medical Benefit.

Answering Mr. C. PRICE, Mr. ROBERTSON said: The Scottish Insurance Commissioners have had a conference with the representatives of the Scottish Clerks' Association and arranged with them that the Association should issue medical tickets to its members. At the same time the Commissioners agreed to suggest to Insurance Committees that members of the Association might, if practicable, be allowed an extension of time for the choice of a doctor, and so far as they are aware, the members are not experiencing difficulty in obtaining medical benefit. The Commissioners are, however, arranging a further conference with the Association within a few days.

South Shields Insurance Committee.

Mr. ROBERTSON, replying to Mr. HUDSON, said that he was informed by the South Shields Insurance Committee that they had not arrived at any such decision as to limit the choice of doctors to insured persons in their area to such doctors on the panel who at present had less than 800 insured persons on their lists.

Elementary Schools in Scotland.

Mr. LEICESTER HARMSWORTH asked the Secretary for Scotland what steps, if any, he proposed to take to carry out the recommendations contained in the report on the medical inspection of school children in Scotland by Dr. Leslie Mackenzie, particularly as to the increase of cloakroom accommodation, methods of cleaning, and sanitary accommodation, the present conditions of which were described therein as being responsible for disease and infection.—Mr. McKINNON WOOD wrote in reply: As regards cloakroom and sanitary accommodation, adequate provision has been made for many years in the case of all new schools erected according to plans approved by the Scotch Education Department. The department have also, in a memorandum issued in [illegible] their view, ought to be done as regards [illegible] schools. There are, however, a consid [illegible] in which the cloakroom and sanitary accommodation is unsatisfactory, and it appears from the reports of His [illegible] are dilatory and neglige [illegible] I propose, therefore, to [illegible] as regards any of these matters have been observed by the school medical officer, they shall be reported forthwith to His Majesty's inspector for the district, who will, after such further inquiry as he may think necessary, take steps under Article 32 of the Code to require managers to provide the necessary accommodation or to secure the proper cleansing of the schools under penalty of reduction of grant.

The Physical Condition of School Children in England.

In the course of his speech on the Education Estimates in Committee of Supply, [illegible]

Mr. J. A. PEASE (President of [illegible] estimates are largely based on the [illegible] our schools, and it has been cust [illegible] growth in the child population of [illegible] schools. But last year (1911–12) [illegible] school over five years of age increased by only 4030, while those who [illegible] are under five decreased by 20,094—a decr [illegible] children in our schools. The census of 191 [illegible] relating to the six-year-old children in our [illegible] year-old children of to-day. They were fev [illegible] year before—that is to say, instead of there being an increase in the population, there has been an actual decrease of children of school age for that particular year of 846. But that is not all. The statistics of [illegible] s fact, which is, I think, of great [illegible] point, that the birth-rate is steadily [illegible] umber of births was 948,000, in the [illegible] t those dates?—Mr. J. A. PE [illegible] I have only looked into the s [illegible] re has been a diminution, no [illegible] ch is a very material factor in [illegible] age. I may draw the attentior [illegible] nfantile mortality in 1911 was [illegible] 1000. But in regard to school age there is no such diminution in the child mortality as would counterbalance the effect of the diminution in the birth-rate. The total number, therefore, taking a stationary number for our estimates for next year, will be based upon the figures on the registers of last year—6,033,914 children. But those estimates are not only disturbed by the diminution in the birth-rate. They have also been disturbed by the great diminution in the number of children under five years attending our elementary schools. In 1902 there were 613,475 infants between two and five years attending our elementary schools, while in 1912 the number had dropped to 332,866, or a diminution of 280,609 young children, which is a reduction of 45 per cent. in ten years. There is no doubt a natural disposition when a smaller grant is given for children under five and when additional expenditure is placed upon local authorities which has to be met out of the grant, for more attention to be paid to those who attend school in the compulsory ages between 5 and 14 than to smaller children. I am also satisfied from inquiries which I had made that [illegible] hat education which was given in our [illegible] has not been to the interests of the [illegible] m. That is being more and more [illegible] In 1908 one of my predecessors appointed a consultative committee to report on this question, and they reported that if a mother does her duty, if she takes care of her children, if she knows the best way in which to use her narrow means, if she keeps her house clean, if there is a suitable play place for the children, and if the homes are kept well ventilated and decent, there is no better place for these little dots of between three and five than under their mother's care; but if, on the [illegible]

ventilated, where there would be plenty of freedom of movement for the children, constant change in their occupation and opportunities for sleep, and that the teacher should be very carefully selected to look after these children, and in addition to the teachers there should also be attendant nurses. I am glad to say that the parents in this country are getting to understand better than they did how to look after their infant children. At the present moment we have in the country 200 schools for mothers. We have a great number of medical officers who super- [illegible]

Medical Inspection and Treatment.

[illegible]

and the last figures show what a serious amount of illness and trouble there is amongst children of this country at the present time when they first enter the schools. 10 per cent. have their eyesight impaired in some way or other, 5 per cent their hearing, 3 per cent. suffer from ear disease, 5 per cent. from adenoids, 50 per cent. from serious decay of their teeth (in many cases it goes up to 80 or 90 per cent. of decay more or less in degree), tuberculosis 2 per cent., heart disease 2 per cent., and malnutrition 10 per cent. I am glad to say that the authorities who have been comparing their statistics one year with another, find that there is already a real improvement in the condition of the children. The medical officer at Portsmouth informs the Board that the number of those who came to school in 1908 with dirty bodies was 13·8 per cent., but last year it was only 3 per cent. Those who came in a verminous condition in 1908 were actually [illegible] medical [illegible] ust been [illegible] be very [illegible] erest the [illegible] red as a [illegible] dren are [illegible]

very good work is being done. I have been rather better than my word in regard to the contribution which I gave to London and we were able to give the authorities there a grant for the last year of £13,683. In addition to that, London receives a grant of £725 in connexion with the open air schools which have been established by the London County Council, and which are materially beneficial to a certain section of the less robust portion of the school population.

MONDAY, APRIL 14TH.

Amendment of National Insurance Act.

Mr. WORTHINGTON EVANS asked the Prime Minister whether it was intended to introduce the Bill to amend the National Insurance Act before the Whitsuntide adjournment.—Mr. ASQUITH replied: I am not in a position to make any statement on the subject.

Medical Certificates for Sickness Benefit in Ireland.

Sir JOHN LONSDALE asked the Secretary to the Treasury to state in how many counties and county boroughs in Ireland had panels of doctors been formed for the purpose of granting to insured persons the medical certificates which were required before sickness or sanatorium benefit could be obtained, and in how many counties and county boroughs had panels not been formed.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) answered: I understand from the Irish Insurance Commissioners that names of doctors are still being received and that the question is being considered at the Advisory Committee to-morrow. The Commissioners will communicate with the honourable baronet.

Unqualified Practitioners and the National Insurance Act.

Mr. F. HALL (Dulwich) asked the Secretary to the Treasury whether, under the National Insurance Act, arrangements could only be made with duly qualified medical practitioners for the administration of medical benefit; whether [illegible] second part is in [illegible]

Rural Practitioners and Drug Supplies.

Mr. FITZROY asked the [illegible] in which a medical man [illegible] insured persons, he was [illegible] clause securing to him the right to receive the additional 2s. as provided by the National Insurance Act, and whether he was aware that [illegible] Committee.

Sleeping Sickness in Rhodesia.

Dr. CHAPPLE asked the Secretary of State for the Colonies whether he had received any details of the spread of sleeping sickness in [illegible] of removal.

TUESDAY, APRIL 15TH.

South Shields Panel.

[illegible] Act guaranteeing free ch[illegible] posed to do in the matte[illegible] been caused by this [illegible] Mr MASTERMAN) replied[illegible] tion referred to in the [illegible] *Local Medical Committ*[illegible] on the panel present [illegible] but the Insurance Com[illegible] I may point out that [illegible] persons who have [illegible] have been refused [illegible] if it were adopted, [illegible] ting more than 800 [illegible]

Approved Societies and Medical Men.

Mr. WATT asked the Secretary to the Treasury whether it was [illegible]

Mr. ROBERTSON (who replied) said: The answer to the first part of the question is in the negative Medical benefit is administered by Insurance Committees and not by Approved Societies. With regard to the second part, persons who are allowed by Insurance Committees to make their own arrangements for medical attendance and treatment will receive contributions from [illegible] attendance and treatment. [illegible] which there has never, so f[illegible] suggested in the third part [illegible] that I fully understand fro[illegible] arrangements my honourable friend has in mind. Perhaps he would furnish me with further details.

Scottish Clerks' Association and Medical Benefit.

Mr. WATT asked the Secretary to the Treasury whether his depart[illegible] that department on Oct. 31st, [illegible] the effect that members of [illegible] making their own arrange- [illegible] so, and that the committee [illegible] which medical benefit was [illegible] treatment.— [illegible] d: It is pro- [illegible] sition of the [illegible] er referred to [illegible] the Associa- [illegible]

WEDNESDAY, APRIL 16TH.

Hospital Employees and Sickness Benefit.

Mr. BOTTON asked the Secretary to the Treasury whether, under [illegible] being insured persons [illegible] ir hospital were [illegible] replied) said: I [illegible]

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The Unpardonable Sin. A Discussion of its True Nature, and the Threat Associated with it. By Dr. C. Williams. *Price 6d. net.*

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Imprimerie "La Renaixensa," Xuclá, 13, Barcelona.

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Saint Bartholomew's Hospital Reports. Edited by H. Morley Fletcher, M.D., and W. McAdam Eccles, M.S., F.R.C.S. Vol. XLVIII. Price not stated.

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Das [illegible] monographische Studie. Von Prof [illegible] Aus dem Institut für physikalische [illegible] der Herzkrankheiten zu *Dresden.)* [illegible] M.8.

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GAL[illegible] has been re[illegible] Council of the [illegible]

[illegible] Surgeon [illegible]eborough

[illegible] has been [illegible] Vincent-

[illegible] Lecturer [illegible]

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[illegible] t Medical [illegible] Medical [illegible]

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NOT[illegible]

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SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging, and washing.

SHOREDITCH INFIRMARY AND WORKHOUSE.—Resident Senior Assistant Medical Officer. Salary £175 per annum, with rations, apartments, and washing.

SOUTHAMPTON, FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with rooms, board, and washing.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

TYNEMOUTH, COUNTY BOROUGH OF.—Clinical Tuberculosis Officer and Assistant Medical Officer of Health. Salary £350 per annum.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Pathologist and Assistant Medical Officer. Salary £200 per annum, with board, apartments, attendance, and washing. Also Locum Tenens Medical Officer, unmarried. Salary 4 guineas per week, with apartments, board, attendance, and washing.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Clinical Assistants to Out-patients. Also Resident House Physician for six months. Salary at rate of £50 per annum.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Physician.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing. Also Assistant Honorary Physician.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Surgeon. Salary £80 per annum.

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL.—Resident Medical Officer. Salary £150 per annum, with unfurnished house, free of rent and rates.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, rooms, and laundry.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Portree, in the county of Inverness.

Births, Marriages, and Deaths.

BIRTHS.

GRAVES.—On April 8th, at Lusmagh Lodge, Clevedon, Somerset, the wife of R. K. G. Graves, M.R.C.S., L.R.C.P. Lond., of a son.

WILLIAMSON.—On April 7th, at The Limes, Epsom, the wife of John Williamson, M.D., of a son.

MARRIAGES.

OSBORNE—DENMAN.—On April 8th, at the Bolton Memorial Church, Oakamoor, by the father of the bride, Staff-Surgeon Richard Sidney Osborne, R.N., to Alice Campbell, eldest daughter of the Rev. Charles Denman and Mrs. Denman.

RAMSAY—ILLINGWORTH.—On April 9th, at St. James's, Blackburn, Jeffrey Ramsay, M.D., to Alice, eldest daughter of Walter Illingworth, of The Woodlands, Blackburn.

DEATHS.

IMAGE.—On April 8th, at St. Margaret's, Bury St. Edmunds, Francis Edward Image, M.A., M.B. Cantab., M.R C.S. Eng., aged 70 years.

McDONALD.—On April 8th, at Charlton House, Shepperton-on-Thames, George B. McDonald, M.D., J.P., aged 71 years.

STIRLING.—On April 13th, at Belfield Lodge, Fallowfield, Manchester, Elizabeth Ferguson, wife of William Stirling, M.D., Professor of Physiology, Victoria University of Manchester.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HEALTH MATTERS IN THE FEDERATED MALAY STATES.

REPORTS on the affairs of the Federated Malay States (Pérak, Selángor, Negri Sembilan, and Pahang) and of the Feudatory Malay States (Kelantan, Trengganu, Kedah, and Perlis) have just been presented to both Houses of Parliament by command of the King. The Federated States are situated on the mainland of the Malay Peninsula and are closely connected with the Straits Settlements. The total area of the Federation is 27,506 square miles, with a population in 1911 of 1,036,999. In regard to the Feudatory States, Kelantan, on the east coast of the Malay Peninsula, has a total length of about 120 miles and a breadth of 50 miles; the population is 286,751. Trengganu lies south of Kelantan, is of approximately similar dimensions and area to that state, and has a population of 154,000. Kedah is an ancient Mahommedan State on the West Coast of the Peninsula, with a group of islands in the Straits of Malacca, the total population being about 245,000. Perlis is a smaller State on the west coast with a population of only 32,740. All these States, both federated and feudatory, are now administered under the supervision of British advisers, with the Governor of the Straits Settlements (Sir A. H. Young, K.C.M.G.) as High Commissioner. The medical section of the report on the four federated states mentions that the year 1911 was in general a very unhealthy one. The death-rate was 37·03 per 1000, as compared with 32·16 in 1910. The birth-rate was 19·41, as compared with 21·39 in 1910. There were 97,162 admissions to hospital, the death-rate among patients being 9·57. The number of out-patients who sought treatment was 232,506, being about 15,000 more than in 1910. Malaria was the cause of 45 per cent. of the deaths, with a mortality rate of 16·39 per 1000 of the population. Dysentery and diarrhœa accounted for 19 per cent. of the total number of deaths. Beri-beri was the cause of 695 deaths, there being a slight decrease in Perak, but an increase in Selangor and Negri Sembilan. Outbreaks of cholera occurred in Lower Perak and in Krian, in the lunatic asylum at Taiping, and at Bernam in Selangor. The total number of cases was 683 and deaths 496. Small-pox, formerly the scourge of the Malay Kampongs, accounted for 288 cases and 43 deaths. Ten cases of blackwater fever, with three deaths, were recorded. Four deaths from plague were verified. The total number of vaccinations was 108,121. Malaria has engaged the constant attention of all medical officers. The disease was certainly more prevalent in 1911, and, as the principal medical officer considers, the mortality figures do not alone convey a full knowledge of the amount of harm caused by this disease. A Central Advisory Board has been appointed for the purpose of collecting and distributing information regarding malaria and advising generally on antimalarial measures.

At the Institute for Medical Research further work has been done with a view to the isolation and determination of the substance of high physiological importance contained in rice "polishings," but it is not considered possible at present to estimate the scientific value of these researches. Dr. H. Fraser, the director of the institute, reports that it is satisfactory to find that the conclusions arrived at as to beri beri have received confirmation by investigators in most of the countries where this disease occurs, and that it may now be considered as beyond dispute (1) that among people whose staple diet is rice beri-beri is caused by the continuous consumption of polished rice, and may be prevented by the substitution of unpolished rice; (2) that a harmless rice becomes a harmful one when cooked by steam under pressure. He adds that a further outcome of these researches has been to demonstrate the inefficiency of the methods by which dietetic values have hitherto been determined. Special attention has been devoted by the staff of the institute to anopheline mosquitoes, the distribution of the species and their relative efficiency as malaria carriers, with a view to obtaining accurate knowledge of the factors concerned in the spread of malaria.

The report from the Feudatory State of Kedah states that the year 1911 was marked by the occurrence of a long-continued drought and a severe and prolonged cholera epidemic in consequence. There were recorded altogether 1111 cases of the disease and 886 deaths. 151 cases were treated in the Alor Star Hospital, with 83 deaths. Cholera generally starts in Alor Star, and is due to the lack of good drinking water in the dry season. Steps are being taken to provide a water-supply from hills, but any scheme of this kind will be very costly. In the meantime, as a temporary measure, a rain catchment area has been erected at Alor Star of corrugated iron, draining into large tanks. These tanks are supposed to hold enough to supply drinking water to the town during a two months' drought. During the epidemic referred to drinking water was brought from Penang in tongkangs and sold at Alor Star, and the introduction of the Penang water was instantly followed by a decrease in the number of cases in Alor Star. In addition to cholera there was a slight outbreak of small pox on the coast There were 162 cases and 41 deaths Kedah is well vaccinated, and so the disease did not spread far Apart from cholera and small pox the State was healthy enough 33 per cent of the recorded deaths were due to fever and 19 2 per cent to bowel complaints (excluding cholera) The total number of Malay deaths (exclusive of cholera) was 2861 and of Malay births 2963, showing a slight increase in favour of births In the case of all other nationalities the deaths exceeded the births There were 2293 admissions into all the hospitals with 256 deaths, including cholera patients 21,324 patients were treated at the outdoor dispensaries Dr H S Sugars was appointed medical officer for South Kedah and stationed at Kulim, where it is intended to build a commodious and up to-date hospital, but his duties include those of assistant superintendent of Indian immigrants, and necessitate his absence from his headquarters at Kulim for a great part of each month As compared with the Straits Settlements or the Federated Malay States, the medical staff and hospital accommodation are still very inadequate, but much has been done during the last four years when the state of things existing previously is remembered The report of the British adviser in Perlis shows that in that State 563 cases of cholera were reported with 484 deaths At the dispensary there were 1336 attendances for medical treatment, the principal ailments being malaria (20 cases), venereal diseases (121 cases), dysentery (54), rheumatism (110) skin diseases (222), and bronchial diseases (70) There were 1056 vaccinations, of which 1010 were successful

According to the medical report from the State of Kelantan the number of in patients admitted to the hospital was 376, and there were 24 deaths The out patients treated at the Government dispensary numbered 6793 Of these 3393 were Malays and it is remarked that the popularity of European treatment among the Kelantan Malays is steadily increasing There were 457 patients treated for venereal diseases as compared with 264 in the preceding year. This increase is due to a wider knowledge of the advantages of treatment rather than to an actual increase in the amount of disease, but the residency surgeon *mentions* that these diseases are very prevalent in Kelantan, especially among the youth of both sexes in the town of Kota Bharu As in previous years Kota Bharu was comparatively free from malaria, but the disease prevailed in the up-country districts, and the Government staff at Batu Mengkebang suffered severely Quinine was freely distributed No case of beri beri and only one of small pox occurred during the year The absence of beri beri is attributed to the fact that local rice is almost the only rice consumed in Kelantan, even by the Chinese coolies on the estates There was no definite epidemic of cholera but several deaths were caused by a fatal type of epidemic diarrhœa which broke out in the middle of the year Precautions were taken as if for cholera, and the disease did not spread There were 3793 vaccinations performed by the Government medical staff and 976 by the Duff Development Company's medical officer, most of the latter being estate coolies Buffalo calf lymph obtained direct from the Pasteur Institute at Saigon was used in all cases The Duff Development Company continued to maintain their hospital with 70 beds at Kuala Lebir in charge of Dr A G H Smart, and this *hospital was not confined to the employees of the company* There were 1066 patients, including 24 Europeans, admitted to this hospital during the year, 702 of these being persons employed by the company Hospitals were also maintained on all the other estates The residency surgeon estimates the mortality among the estate coolies at 7 per cent Too much reliance must not be placed on this figure as, though the number of deaths is known, the number of coolies is constantly varying

The report from the State of Trengganu contains no special reference to medical matters

"THE RISING OF THE LIGHTS"

To the Editor of THE LANCET

SIR,—In my letter to you of the 12th inst I omitted to emphasise the fact that when my East London patients spoke of "*rising*" their lights, they undoubtedly meant "*raising*" them The most common phrase was "I keep on 'risin'' my lights" This of course only shows that some of those who use these words mean that they are spitting up their lungs and throws no light on the historical origin of the phrase in question

I am, Sir, yours faithfully,

London, April 13th, 1913 H BRYAN DONKIN.

THE IMPERIAL CADET ASSOCIATION

THE Imperial Cadet Association and "Lord Roberts's Boys," of which Lord Roberts is president, was established with the fourfold object of training the youth of the country in discipline, drill and the use of the rifle, of paving the way for a State aided and State-supervised uniform and universal system of cadet training for all boys physically fit from the age of 12 years upwards of providing and equipping rifle ranges in public elementary schools, and of encouraging home cadets to use the facilities provided by the nation for employment and continued and technical education Incidentally the youth themselves are benefited by the formation of character a true spirit of citizenship and patriotism is fostered and the foundation is laid for the ultimate solution of the problem of national defence Subscriptions to the general fund are needed for general training in the City of London, the annual summer camp, and for extending Imperial hospitality to cadet guests from overseas The practice of return visits as when Canada and New Zealand sent cadets last year to England and British cadets were sent to Canada last August, undoubtedly increases the conception of the solidarity of the Empire and binds closer the ties uniting the Mother Country and her dominions overseas The honorary secretary is Dr. Reginald J L Hanson, 5, Harley-street, W, and the treasurers, to whom subscriptions may be sent, are the Hon Herbert Gibbs and Mr. E O. Ouvry, 10, Little College street, Westminster, S W.

DANDRUFF

To the Editor of THE LANCET

SIR,—1 Can you give me any suggestion for the treatment of a young lady who has been troubled with dandruff for years and more recently the hair is found to split very much and to come out easily? Frequent brushing and washing with carbonate of potassium has been done A spirit-and water lotion, equal parts, with a small quantity of sublimate and some resorcin has been used 2 Can you give any references to literature, and especially to a concise book?

I am, Sir, yours faithfully,

April 8th 1913 J T (M D)

*** 1 The condition of seborrhœa from which the patient appears to be suffering may be treated by applications Frequent washing is undesirable, if the hair is washed every two or three weeks it will be sufficient The application may take the form of a lotion, which is much more pleasant than an ointment, though the latter is often more effective A lotion which is often useful is —

Formalin	ʒss
Spiritus vini rect	℥iv.
Ol olivæ	ʒii
Resorcin	gr x.
Aq ad	℥viii.

Various modifications of this lotion may be required according to the actual condition of the patient upon which much depends 2 Most of the treatises on diseases of the skin contain chapters on the treatment of seborrhœa —ED L

A NEW PRACTITIONER'S RECORD BOOK.

THE *Medical Practitioner's Desk Companion*, which has been submitted to us by *Robert Gibson and Sons, Limited, of Glasgow*, consists practically of a visiting list ruled for name and address, with daily attendance columns for a month to the open page, charges, cash received, folio reference, total attendances and visits age and sex, occupation, and illness columns These pages are indexed for each month of the year with the entire alphabet, so that any patient's monthly record may be easily found At the end of each month are two pages ruled for engagements and an analysis page for summarising the total number of attendances in each month, quarter, and the year, and also the total number of patients, male and female respectively The book is essentially a desk book, for though small and compact it is too bulky for the pocket It is possible that the analysis pages may be of some service to practitioners on the panel in estimating the amount of work entailed by the Insurance Act and its *pro rata* remuneration

THE DEVELOPMENT OF A CHEMICAL INDUSTRY.

A VERY interesting story of the growth of a great industry is presented in a souvenir, printed and published by Messrs Meister, Lucius, and Brüning, commemorating the jubilee of the foundation of their works at Hoechst on the Maine The first page shows a small factory on the banks of the river, snugly situated amongst sylvan surroundings Then follow illustrations of plans of the great "farbwerke," showing the allocation of spaces to the various departments of the business—acid works, alizarin house, alkaloid laboratories, and a section devoted to bacteriology and the preparation of serums The final scene is an immense area covered with factories the activities of which are illustrated by a forest of smoking shafts The book is very artistically got up, *is printed in bold type, and copiously illustrated*

COMMUNICATIONS not noticed in our present issue will receive attention in our next

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The following journals, magazines, &c, have been received:— Biochemical Journal, Journal of Comparative Pathology and Therapeutics, Journal of Anatomy and Physiology, Bulletin of Johns Hopkins Hospital, South African Medical *Record*, Revue de Médecine, Revue de Chirurgie, Brain, British Journal of *Dermatology*, Journal of Hygiene, Archives of Roentgen Rays St Paul Medical Journal, Canadian Journal of Medicine and Surgery, Guy's Hospital Gazette, American Journal of Surgery, Eugenics Review, La Clinique Ophthalmologique

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Mr. A. G. Huntsman: (1) Protostigmata in Ascidians (communicated by Prof. A. B. Macallum); (2) On the Origin of the Ascidian Mouth (communicated by Prof. A. B. Macallum).—Mr. F. A. Bainbridge, Mr. S. H. Collins, and Mr. J. A. Menzies: Experiments on the Kidneys of the Frog (communicated by Dr. C. J. Martin).—Mr. C. Revis: (1) On the Probable Value to Bacilli Coli of "Slime" Formation in Soils (communicated by Sir J. R. Bradford, secretary to the Royal Society); (2) Variation in Bacillus Coli—the Production of Two Permanent Varieties from One Original Strain by Means of Brilliant Green (communicated by Sir J. R. Bradford).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SPECIAL MEETING OF FELLOWS OF THE SOCIETY: at 5 P.M.

Discussion:

On Alimentary Toxæmia: its Sources, Consequences, and Treatment. (Third Meeting.)

The discussion will be re-opened by Mr. Lockhart Mummery and continued by Prof. Arthur Keith, F.R.S., Dr. W. Langdon Brown, Mr. George Rowell, Mr E. M. Corner, Mr. Peter Daniel, Mr. C. H. Fagge, Mr. H. W. Carson, Mr. K. W. Goadby, Mr. E. C. Hughes, and Mr. Macleod Yearsley.

The Fourth Meeting will be held on Monday, April 28th, at 5 P.M., when the discussion will be re-opened by Dr. William Hunter.

TUESDAY.

SECTION OF MEDICINE (Hon. Secretaries—Robert Hutchison, H. Batty Shaw): at 5.30 P.M.

Papers:

Dr. Lyon Smith: Gout and Chronic Rheumatism: Their Ætiology from the Bacteriological Standpoint, and Some Notes on Treatment.

Dr. T. D. Lister: Ambulatory Treatment by means of Tuberculin.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—H. S. Clogg, F. Langmead, P. N. Blake-Odgers): at 4.30 P.M.

Cases:

Dr. Bunch: Baby with Congenital Syphilis Cured by Intravenous Injection of "606."

Mr. Anglin Whitelocke: (1) Family of Five Children, all with Thyroid Enlargement; (2) Successful Case of Cerebral Decompression for Convulsions, Jacksonian in Type, in a Child of 4.

Dr. Porter Parkinson: Two Cases of Tuberculous Kidney.

Mr. Fitzwilliams: Tumour Removed from Capsule of Shoulder Joint.

Dr. Zundel: Diabetes Insipidus Associated with Infantilism.

Dr. Cockayne: Distal Myopathy.

Specimen:

Dr. J. D. Rolleston: *Diphtheria of Œsophagus.*

Communications:

Mr. Anglin Whitelocke: (1) Successful Operation for Strangulated Hernia in an Infant 18 Days Old; (2) Case Simulating Meningitis in which the Symptoms were caused by the Escape of Thread Worms into the Peritoneal Cavity through a Perforated Appendix.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Dr. T. Shadick Higgins: The Diphtheria Bacillus and Scarlatinal Infection.

Surgeon McCowen, R.N. (contributed [illegible] Bassett-Smith, C.B., R.N.): A Not [illegible] Principe Island and Angola, West [illegible]

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

MONDAY.—8 P.M., Dr. D. Sommerville: Antiseptics and Disinfectants:—I., Historical and General. (Cantor Lecture.)

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Paper:—Dr. W. A. Brend: The Futility of the Coroner's Inquest.

HUNTERIAN SOCIETY.

WEDNESDAY.—8.30 P.M., Annual Meeting. 9 P.M., Hunterian Medallist.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Paper.—Dr. T. J. Horder: Infections Due to the Bacillus Coli.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 1, Wimpole-street, W.

THURSDAY.—10.30 A.M. to 12.30 P.M., Papers:—Mr. F. Juler: Acute Purulent Keratitis in Exophthalmic Goitre treated by Repeated Tarsorrhaphy.—Mr. Ormond: Two Cases of Permanent Hemianopia following Migraine.—Dr. Taylor and Dr. G. Holmes: (1) Conditions Present in Several Members of a Family with Hereditary Optic Atrophy; (2) Unusual Conditions associated with Optic Atrophy of the Family Type.—Mr. B. Harman: (1) An Analysis of 250 Cases of High Myopia; (2) A Suggestion for the Grading of [illegible] .30 P.M. to 4.30 P.M.—Papers:—Mr. A[illegible] the Excision of the Conjunctival [illegible] Dorrell: Sensory Reflex in Tobacco Amblyopia.—Mr. T. Collins and Mr. Hudson: On the Pathological Examination of an Eye with Congenital Anterior Staphyloma.—Mr. T. Collins: Visible Vessels on the Surface of the Iris. Annual Business Meeting at the conclusion of Afternoon Meeting.

FRIDAY.—10.30 A.M. to 12.30 P.M., Discussion on Vascular and Other Retinal Changes in Association with General Disease (opened by Dr. J. Taylor, Dr. L. Werner, and Mr. G. Coats). 2.30 P.M. (at the Royal London Ophthalmic Hospital, City-road, E.C.), Cases:—Mr. A. Macnab: An Early Case of Chronic Glaucoma Operated on by Trephining in which there was subsequently a Diminution in the Excavation of the Disc.—Mr. T. Collins: A Case of Buphthalmos with Full Vision and Without any Cupping of the Optic Disc.—Mr. Ormond: (1) Thrombosis of the Retinal Veins, shown at a meeting of the Ophthalmological Society in October, 1906; (2) Case of Albuminuric Retinitis of 10 Years' Standing.—Mr. Lawford: Vascular and Retinal Changes resulting from Partial Venous Thrombosis. (A discussion will follow the examination of the cases.)——An Exhibition of Ophthalmic Instruments, &c., will be held during the days of the meetings at the Rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., to which all members are invited.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. Shattock: Specimens illustrating Atrophy. (Museum Demonstration.)

FRIDAY.—5 P.M., Prof. Keith: Specimens illustrating Congenital and Acquired Deformities of the Spine. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. E. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Mr. H. Grimsdale: On the Differential Diagnosis of Glaucoma.

TUESDAY.—4 P.M., Dr. J. Collier: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. Donelan: Some Common Throat and Nose Disorders.

WEDNESDAY.—4 P.M., Mr. H. A. T. Fairbank: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. R. Box: Pellagra.

THURSDAY.—4 P.M., Dr. T. G. Stewart [illegible] 5.15 P.M., Lecture:—Dr. O. K. Williamson: [illegible] an Explanation of Certain Cases [illegible] Monoplegia.

FRIDAY.—4 P.M., Mr. J. D. Grant: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. W. Wingrave: Tonsils.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., [illegible]

TUESDAY.—10 A.M., Gynæcological Operations. [illegible] and Surgical Clinics. X Rays. Operations. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Diseases of the Skin.

WEDNESDAY.—10 A.M., Diseases of Children. Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Diseases of the Eye. Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Operations. Orthopædics. 2.30 P.M., Diseases of the Eye.

FRIDAY.—10 A.M., Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Diseases of the Skin.

SATURDAY.—10 A.M., Diseases of Children. Operations of the Throat, Nose, and Ear. Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.30 P.M., Special Lecture:—Sir Wm. Bennett, K.C.V.O.: Remarks on Some Instructive Surgical Cases.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. [illegible]mead: Medical. [illegible] Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. Dr. A. Davies: Pathological Demonstration. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery. 3.15 P.M., Special Lecture:—Mr. L. V. Cargill: The Determination of Visual Acuity, Diagnosis of Refraction Errors, and Detection of Malingering.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Mr. H. Curtis: Fractures.

FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. [illegible] Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Radiography.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.

Course of Lecture-Demonstrations on Diseases of the Chest, with Special Reference to Tuberculosis (including a Tuberculin Course):—

MONDAY.—4.30 P.M., Dr. B. King.
THURSDAY.—4.30 P.M., Dr. P. B. Ridge.
FRIDAY.—3 30 P.M., Dr. Kellie.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

THURSDAY.—4 P.M., Mr. S. Stephenson: The Common Eye Disease of Childhood—Phlyctenulosis.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

THURSDAY.—6 P.M., Dr. W. Griffith: Eczema and its Treatment.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

TUESDAY.—3 P.M., Prof. W. Bateson: The Heredity of Sex and some Cognate Problems. (Lecture II.)

ROYAL SANITARY INSTITUTE, 90, Buckingham Palace road, S.W

WEDNESDAY.—5 P.M., Dr. C. W. Daniels: Insect Carried Diseases and their Prevention. 6 P.M., *Display of Micro-cinematograph Films.*

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THURSDAY.—4.15 P.M., A Demonstration of Medical and Surgical Cases will be given by the Members of the Honorary Staff. (Post-Graduate Clinic.)

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MONDAY.—10 A.M., Obstetrical Lecture: Mechanical Obstructions to Labour (continued). 11 A.M., Examination of Patients and Minor Operations.
TUESDAY.—10 A.M., Major Operations. 4 P.M., Class in Gynæcological Diagnosis.
WEDNESDAY.—10 A.M., Obstetrical Lecture: The Rarer Forms of [illegible]

[illegible]

For further particulars of the above Lectures, &c., see Advertisement Pages.

A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 22nd–25th (London L.C.C. Technical Institute, Vincent-square).—Annual Nursing and Midwifery Conference.
„ 26th–Nov. 5th (Ghent).—International Exhibition.
May 15th–18th (Paris).—Twenty-first Annual Congress of the Royal Institute of Public Health.
[illegible]
J [illegible]
Institutions.
July 7th–12th (Exeter).—Twenty-eighth Congress of the Royal Sanitary Institute.
„ 16th–18th (Oxford, Keble College).—Oxford Ophthalmological Congress.
„ 22nd–25th (Brighton).—Eighty-first Annual Meeting of the British Medical Association.
Aug. 1st–3rd (Ghent).—Congress against the Adulteration and [illegible]
„ [illegible]
„ [illegible]
„ 20th–26th (Ghent).—Third International Congress of Neurology and Psychiatry.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 16th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp Shade	Min. Temp.	Wet Bulb	Dry Bulb	Remarks.
April 10	30 03	WNW	...	66	51	43	45	47	Raining
„ 11	30 05	N.E.	0·07	50	45	39	37	40	Overcast
„ 12	29·87	N.E.	0 45	85	42	36	35	39	Fine
„ 13	30·14	N.E.	...	87	45	34	33	37	Cloudy
„ 14	30 11	S.W.	...	71	49	38	40	43	Raining
„ 15	29·98	S.W.	0·09	104	55	43	46	49	Cloudy
„ 16	29·44	S.W.	0·19	78	57	47	47	48	Raining

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The Hunterian Lectures

ON THE

PRINCIPLES AND TECHNIQUE OF THE OPERATIVE TREATMENT OF MALIGNANT DISEASE OF THE MOUTH AND PHARYNX.

Delivered before the Royal College of Surgeons of England on March 3rd and 5th, 1913,

By WILFRED TROTTER, M.S. Lond., F.R.C.S. Eng.,

ASSISTANT SURGEON, UNIVERSITY COLLEGE HOSPITAL.

LECTURE II.[1]

Delivered on March 5th.

Mr. President and Gentlemen,—So far we have dealt entirely with problems connected with the cure of the disease, and have laid down the conditions which must be satisfied if cure is to be attained with any certainty. We now have to ask whether the technique at our disposal allows us to meet these requirements with a reasonable degree of safety to the patient. This chapter of the subject is concerned almost entirely with the infective complications of the operation. The primary operative risks, such as shock, hæmorrhage, and mechanical respiratory troubles, are so uncommon or so completely met by ordinary surgical measures that we need not consider them here.

The Dangers of the Operation.

The infective complications dangerous to life can be divided into two main classes: pulmonary infections and wound infections. Both of these are common and constant dangers in connexion with operations on the mouth; they are much more serious in operations on the pharynx.

I. LUNG COMPLICATIONS.

That these still constitute a serious danger cannot be doubted, though it is perhaps sometimes thought that they are greatly less frequent than formerly.

Septic pneumonia is the essential condition met with. It is particularly likely to lead to suppuration, with the formation of single or multiple abscess cavities with gangrenous walls. The pus from these has the same smell as an ulcerating epithelioma and all abscesses derived from the mouth and pharynx. The pneumonia is particularly fatal, and though I believe I have seen a few cases which have recovered, as a general rule the diagnosis brings with it the certainty of a fatal termination. Possibly operation on some of these cases of localised gangrene may be able to save a few. Two cases of post-operative gangrene of the lung in which I laid open the gangrenous focus were somewhat encouraging. In one, not, however, a mouth or throat case, the patient recovered; in the other the lung cleared up rapidly, but the patient died from a pyæmic focus elsewhere.

The causation of these pneumonias is a somewhat complex interaction of various factors, but a study of the evidence over a large number of cases and the effect of various prophylactic measures show that there are three processes at work. 1. The infection is derived from general sepsis of the mouth and from the septic ulceration of the growth. The extent of the ulceration is greatly influenced by the sepsis in the mouth, whether the growth is in the mouth or pharynx. 2. The lungs are irritated by the anæsthetic vapour and by blood. Probably the actual irritating material is mucus in which the anæsthetic is dissolved. The importance of the entry of blood alone has probably been greatly exaggerated. 3. The infective material is conveyed to the lungs by aspiration during the operation. Aspiration is favoured by any kind of respiratory obstruction.

There is one other mechanism I have omitted in this enumeration because it can be so easily and should be so rigidly excluded. This is the indiscriminate mopping out of the mouth and pharynx on account of the supposed necessities of the anæsthetist. It should on no account be allowed except under the most careful precautions, for by its means gross quantities of septic material are apt to be conveyed from the ulcer to the upper opening of the larynx, whence they are promptly aspirated into the lungs. In the few moments that elapse before the windpipe is opened it is scarcely ever necessary to sponge out the throat at all.

The importance of the different factors enumerated can be inferred from various clinical observations. In edentulous patients with but slightly ulcerated tumours pneumonia is scarcely to be feared. Accidental leakage past the pharynx or larynx plug during the operation is extremely dangerous. The influence of the anæsthetic is probably the least important factor. It is perhaps to it that the increase in the incidence of pneumonia with the length of operations is due. This increase is, however, seen only if the other factors are acting also. Short anæsthetics, even though all the other conditions are unfavourable, are very rarely followed by pneumonia.

The relative unimportance of entry of blood is shown by the occurrence of pneumonia after gland operations which are done before the primary growth is removed. These long and difficult operations are usually accompanied by great difficulty in maintaining a free airway and consequent excessive aspiration at the laryngeal opening. This is a strong argument against the gland operation being done first in cases with much ulceration.

The one precaution against pneumonia which I have found to be efficient is opening the larynx or treachea and plugging the airway higher up. I use it invariably for all cases except the smallest growths on the anterior part of the tongue. I find I have done a preliminary laryngotomy or tracheotomy more than 50 times. I have never seen any harm whatever come from it, and, on the contrary, a deal of good. Its advantages are numerous in addition to minimising the incidence of pneumonia: (*a*) The patient can be kept absolutely tranquil, breathing without effort and without coughing, so that the shock of the operation is greatly diminished by the absence of these dangerous and exhausting exercises. (*b*) It solves all difficulties of the anæsthetic. For these patients chloroform given through a laryngotomy tube is as nearly a perfect anæsthetic as we possess. (*c*) It greatly diminishes the risk of pneumonia. I have come to regard the gland operation done as a first stage as much more dangerous than the primary growth operation. In certain bad cases where the gland operation had to be done first I have done a preliminary laryngotomy and been much encouraged by the result. (*d*) It allows the complex operations of modern technique to be done deliberately and with the attention to detail they demand.

The procedure has no disadvantages. Laryngotomy, which should be reserved chiefly for mouth operations, can be done through a mere puncture which leaves an invisible scar, and takes three or four minutes. Tracheotomy should be used whenever the tube may have to be left in for some time. It takes a few minutes longer but is always quite easy. An interesting phenomenon is often observed in these cases, and that is the occurrence of periodic respiration after the tube has been put in and the preliminary apnœa has passed off. It is common in elderly patients and has no serious significance.

One important caution may be added, and that is that if there is the least reason to suspect any trouble whatever in breathing during the immediate post-operative period the tube should be left in. It can do no harm and may save the patient's life, as the shock of an attack of even partial asphyxia is very apt to be fatal in an enfeebled patient.

II. WOUND INFECTION.

This is little likely to be dangerous in the mouth, but immediately the anterior faucial pillars are passed the danger becomes a very serious one.

Acute septicæmia is not uncommon with large wounds of the pharynx. It generally begins at once and destroys the patient within a few days of the operation. Cellulitis is most serious with wounds low down in the pharynx. Wound infection from the mouth has certain marked and constant characteristics and tends to run a very definite course. All wounds which are allowed to come into contact with pharyngeal or oral mucus undergo necrosis of the surface with the formation of a definite slough. If the surface is quite open the infection does not tend to spread. The temperature is raised slightly and remains up for about a week, when separation of the sloughs with free suppuration therefore we have other series of experiments with preparations of staphylococci, coli, &c.

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[1] Lecture I. was published in The Lancet of April 19th, 1913, p. 1075.

According to Manouélian atheromatous plaques appeared in the aortæ of a large proportion of rabbits inoculated repeatedly with staphylococci (in 73 out of 86) and also in monkeys. These plaques occurred at the level of the arch of the aorta. It must be noted, however, that Weinberg found spontaneous atheroma in 4–19 per cent. of rabbits. More recently Bertrand and Berthelot have isolated from the fæces of patients suffering from chronic autointoxication an organism which when grown on a special medium containing histidine yields a highly toxic product apparently identical with β-imidazolethylamine, a base previously obtained by Ackermann in the putrefaction of histidine and also by Barger and Dale in ergot. The organism which yielded this toxic product belonged to the coliform group, and according to the authors was closely related biochemically to the B. lactis aerogenes. The authors make the statement that this particular organism was never found in the fæces of normal healthy people. This is a very important statement, and confirmation must be awaited before it can be accepted.

Turning now to the animal experiments performed with definite chemical substances which are understood to arise from the action of micro-organisms in the intestinal tract. In these experiments by Metchnikoff, Dratschinski, and others potassium phenylsulphate and indol have been the chief substances whose toxic action on animals has been investigated. With potassium phenylsulphate atheromatous changes in the aorta of rabbits, guinea-pigs, and monkeys were produced and small cell infiltrates in the liver and kidney. Rabbits received by the mouth 0·04 grm. of paracresol during a period of 1–4 months, and 61 per cent. of the rabbits showed atheromatous plaques. Dratschinski gave similar doses of indol daily to guinea-pigs by the mouth, and obtained evidence of atheromatous degeneration of the wall of the aorta, with chronic interstitial processes in the organs, such as the liver, kidney, and suprarenal capsules. These foci in the wall of the aorta invariably contained calcareous deposits, and the question to be decided was whether these foci met with in the animals intoxicated with indol were merely further stages in the development of the cartilaginous foci met with in similar situations in normal guinea-pigs, especially those of advanced age. Such foci were met with in 67·5 per cent. of normal guinea-pigs weighing 250 grm. and over. The author was of opinion that hyaline and calcareous foci encountered in the intoxicated animals were distinct from the cartilaginous foci found in normal animals, and concluded that intoxication with indol was the exciting cause. It does not appear to me, however, at all proven that the indol, if it affected anything at all, did any more than hasten the calcareous transformation of these normal cartilaginous foci, and the question of the influence of indol in this connexion must still be considered as undecided.

I now come finally to discuss the changes which have been stated to occur in the composition of the intestinal flora in cases of intestinal stasis and in cases which have suffered resection of the large intestine. This question has recently been attacked by Distaso, who had the advantage of obtaining material from Mr. Arbuthnot Lane's cases. Distaso roughly classifies the organisms of the intestinal tract according as they do or do not produce indol. In the normal adult man the fæces, as is well known, show a preponderance of indologenic organisms of the coliform group. In constipation, according to Distaso, there are practically no Gram-negative organisms, but there is a great abundance of spores, the indol-formers being now of the sporulating type. There is also an absolute diminution in the quantity of bacilli present. The conclusion drawn by Distaso that the flora of constipation is an index of intoxication is entirely unsupported by the evidence he adduces. In cases operated upon for removal of the large intestine it was observed that the flora showed not so much a qualitative change as a quantitative change, with a consequent alteration in the functional activity of the organisms concerned. Before operation the flora was one typical of constipation, while after operation the indologenic organisms had largely given place to the acetogenic (i.e., B. bifidus and B. acetogenes), which are regarded as highly beneficent. The effect of this change, according to the author, is that the acid produced by the latter organisms inhibits the activity of, or actually destroys, any putrefactive organisms present. The evidence on which this statement is based was the fact that when the fæces were inoculated on a potato medium marked acid formation took place, while growth on broth containing boiled white of egg only rarely was followed by proteolysis indicating an action on the part of the putrefactive organisms.

It is very questionable how far it is legitimate to assume that the function of a flora in the body can be determined by an *in vitro* experiment of this rough order. To prove a change in flora of this character would require far more extensive bacteriological and biochemical research than has so far been devoted to the subject, and it is indeed remarkable that the author should make the astounding statement "that after this study the theory of chronic intoxication by the work of intestinal organisms cannot any longer be in doubt." As a matter of fact, it is not clear from the paper how often the fæces were examined in these cases, and whether samples were taken at operation from the bowel above the resection. If, as stated, only two examinations of the fæces at a year's interval were made, the data so obtained would be of little value. Such cases would require to be examined repeatedly before and after operation, and under all conditions of diet.

Distaso further asserts that the intestinal flora of the normal adult is noxious, and yet he asks the reader to rejoice with him over the microscopical appearance of the fæcal flora of one of these operated cases. This flora is characterised as "*une des plus belles,*" but certainly the flora of the constipated person seems far the more attractive, when drawings of each are placed alongside. With regard to the work done by the Metchnikoff school on the influence of food on the composition of the fæcal flora, I would merely refer to certain experiments of Bertrand, who found that rabbits fed on potatoes always gave a marked indican reaction in the urine, while those fed on carrots gave no such reaction. When a carrot rabbit was placed on potato diet indican appeared. The intestinal flora of the two groups did not differ qualitatively, but the potato rabbits had more B. coli in the fæces. No quantitative data on this point are supplied. Bertrand's view was that in the potato rabbit there was much less acid production from the fermentation of sugar than in the carrot rabbit, and consequently there was nothing to inhibit the formation of indol by the coliforms present. Also it is stated that the flora of the potato rabbit was very poor in amylolytic species, but data on this point are wanting.

It cannot be said that work of this kind advances the subject far. One is tempted to ask why chemical examinations of the intestinal contents were not made at various levels and accurate records given of the organisms met with at these levels. In all the recent work on autointoxication and on sour-milk therapy it has to be remembered that the inhibition of intestinal putrefaction by milk and milk constituents, especially milk sugar, was known years before Metchnikoff popularised the administration of milk soured by lactic acid bacilli.[2] As pointed out by Kendall, the effect of such treatment may be due not to acid produced by the bacilli supplied but to that produced by the B. coli acting on the sugar which is increased in the diet. Protein is thus spared, and consequently protein decompostion products do not appear. A bacteriological basis for the view that the activity of lactic acid bacilli inhibits that of the putrefactive organisms is still lacking.

In conclusion, I am of opinion that the investigation of the biochemical action of intestinal organisms yields a very large and promising field for future research and may throw a flood of light on this question of autointoxication, but it does not seem to me that the results achieved in the types of researches so far published by the Metchnikoff school lend any very marked support to the thesis.

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[2] See an excellent survey of this subject by Kendall, 1912, Journal of Medical Research, vol. xxv., p. 117.

York County Hospital.—On the nomination of the President of the Royal College of Surgeons of England, Sir Cooper Perry, medical superintendent of Guy's Hospital, with a legal assessor, on April 18th opened an inquiry at the York County Hospital into the charges of mismanagement at this institution made in the *Hospital* by late resident medical officers. The inquiry concluded on the 19th.

VACCINATION FOR VARIOUS INFECTIONS WITH LIVING MICRO-ORGANISMS.

(BESREDKA'S METHOD.)

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I HAVE already detailed in an article published in THE LANCET[1] my reasons for undertaking experiments with living micro-organisms, the safety and advantages of the method of Besredka employed, and the clinical and laboratory findings on the first cases treated from a prophylactic standpoint.

The application to man of vaccination by living sensitised bacilli typhosi which I established, and by which later workers and myself (for it is now in use as a prophylactic treatment in many countries) have continued to find most gratifying results, together with favourable observations made on animals with sensitised living staphylococci and streptococci, have encouraged me in the undertaking of a series of experiments in the attempt to find a more satisfactory means of vaccination against the common diseases than that with dead micro-organisms Professor Metchnikoff and Dr. Besredka, to whom I have the honour to be an assistant, have taken a generous interest in my work, and I am deeply grateful to them.

My efforts have been directed against infections by various strains of staphylococci and streptococci, and against those due to the gonococcus I wished also to include those due to the pneumococci, but my failure to find a serum that would sensitise the strains of pneumococci I had has forced me, owing to lack of time to prepare one, to postpone any observations on man. Dr. H. G. Adamson, whose large clinical experience demands the fullest recognition, seemed in his interesting Goulstonian lectures, 1912,[2] to attach particular importance to the development of detectable immunity reactions in vaccinated patients, and added that "unless a micro-organism can do this, how can it be of use as a vaccine?" I do not wish to enter upon immunity problems, nor upon the question often discussed of taking anaphylactic conditions seen in certain skin diseases a step further into immunity. May I assume that the resistance to or prolonged treatment by mechanical, chemical, or electrical means necessary in some infections of the skin, and the fact that relapse is not uncommon, add justification to the attempts of vaccine workers? Jenner vaccinated ideally for small-pox and Pasteur for hydrophobia, in turning to good use their clinical observations, and I feel encouraged to follow those great masters, awaiting the day when one may fully explain and demonstrate immunity reactions.

The purpose of this article is to describe the clinical observations and results from the vaccination of 150 patients as a curative method of treatment. As my extended experi[illegible] have been undertaken in the applica[illegible] to man, and may serve as [illegible] raindications to others, I have entered rather fully into the details of the doses of the various vaccines, and the reactions and results are conscientiously reported. Also I shall describe the lines of procedure I have found to be safe and very satisfactory.

At the time of beginning these experiments the difficulties were numerous, and I was far from unconscious of the precautions necessary. Dr. Besredka very kindly discussed with me the facts we had in hand, the use to make of them, and the lines of safe procedure to follow. The most encouraging of our facts particular to this research was that an animal would support more sensitised than non-sensitised specifically virulent staphylococci or streptococci, and that by non-lethal injections of the same we could rapidly produce immunity But for the gonococci we had no such encouraging knowledge. The problems that presented themselves, and the manner in which I have attempted to elucidate them, will be seen by following the lines of procedure adopted in the various cases which are record below.

As is well established, the colour of a colony of staphy cocci pyogenes, the chain of a colony of streptococci, or th cultural characteristics do not denote their particular vi lence; nor the appearance of an individual his resistance requirements for immunisation. Symbiosis, by associati of strains of the same or different groups of micro-organism has to be considered. I can report that no ill consequenc have followed my experiments. The only misfortune w when I tried a non-sensitised strain of staphylococc pyogenes in my skin in comparison with the same sensitis organism on that of a patient. He had no ill effects. I h an abscess and lymphangitis necessitating an absence of fi weeks from the laboratory. The few injections of speci immune serum, together with the immunised micro-organis produced rather painful reactions and indifferent results.

Before recording the cases in series I may point out th in conducting observations on out-patients I found sor attended irregularly. Detailed reports on these are omitte but any observations of value gained therefrom will be co sidered in the *résumés* that follow. Almost all the cas recorded were selected by Dr. Darier and his assistant, I Civatte, in their extensive clinique at St. Louis Hospit Paris. They were from amongst those which they judg would not be readily cured by the usual methods of tre ment [illegible] to them for their kindne and [illegible] inestimable advantage their [illegible] n making my observation My results published bear their valued testimony.

Gonococcal series.—In 26 cases of uncomplicated acu gonorrhœal urethral discharge treated I have but once se the discharge cease and failed to find any gonococ during three or four weeks. I do not attach any value to th result. I have tried in varied doses autogenous, no autogenous, and polyvalent living sensitised vaccines. La the same dead up to injections of 3 billions. To one patie not at the hospital, I gave 100,000,000 non-sensitised livi gonococci from a 24 hours' culture direct from a ureth discharge. There followed no good effect, no local n general reaction. I also tried the associated vaccination living sensitised staphylococci albi (E.) and streptococ [illegible] failed to ameliora [illegible] that by vaccinati [illegible] was treated suffer from any extension of the infection or complication.

The cases of discharge with complications I shall divi for simplicity of description into two categories: (*a*) orchit and epididymitis; (*b*) rheumatism, tendinitis, periarthrit arthritis with exudation. I have as before only given detail those cases that present the fullest interest both showing the varied doses and degrees of response. In a 25 cases were treated.

In section (*a*) the results were most satisfactory. Mo patients were free from pain after the first injection; a fe needed two The two remaining cases were not free fro pain until the third was given—all within a week. The larg dose seemed to give the quicker relief. It took about thre weeks to reduce the infiltration to the size of a pea, a nodu remaining in the globus minor. I had two cases of relaps both apparently due to prolonging the interval, for rap amelioration followed the next injection. I saw no relatio between rapidity of relief and the previous duration of th infection.

In section (*b*) the results in four cases were quite remar able. After the first injection and within 48 hours acute inflamed joints that one could barely touch, in one case o 15 days' duration were freely movable without pain. Th exudation disappeared in three days. Vertebral pain an painful non-suppurating ganglions were also rapidly relieve by the first injection. The cure persisted when patients wer seen one month later. The only instances in which ther was not complete relief within a week were those of subacut tendinitis without exudation. They necessitated at leas 1–3 weeks' injection treatment. I have never read of no seen such rapid and good results from antigonococcal no antimeningococcal serum or unsensitised vaccines Th rapid action is as interesting a problem as *the fact recentl* detailed by Mr. L. S Dudgeon in the Croonian Lectures 1912,[3] that the "exudate contains opsonins and complemen vaccine to no less than 20 other patients I was impressed by his marked reaction, and to test his hypersensitiveness to it I gave 200,000,000 of the same vaccine in ¾ c.c. saline in the lower arm, and 500,000,000 of a single strain sensitised gonococcal vaccine in the upper arm. 24th: The reaction locally was again marked, that in the lower arm being more inflamed looking than that in the upper arm, though in neither case was the reaction so extensive as previously. The temperature rose again to 38·7° C., and was still 38·5° C. He had headache and malaise as before. 26th: On the night of the 24th the patient had a profuse perspiration and complained this day of a pain in the chest. I feared pneumonia or lighting up of old tubercle, as has been said to follow vaccination. The examination of sputum by injection into a guinea-pig and the complement-fixation test of blood were negative for tubercle. March 10th: Both knees painful and swollen, the right particularly; general health restored. 1,500,000,000 in ½ c.c. of sensitised polyvalent gonococci (E 14), serum A, 14 hours together at 37° C. 12th: Slight local reaction; temperature rose to 37·7° C. on the 11th; condition unchanged. As patient again felt weak I decided to discontinue the treatment.

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[1] THE LANCET, August 24th, 1912.

[2] THE LANCET, April 6th, 13th, and 20th, 1912.

[3] THE LANCET, June 15th, 22nd, and 29th, and July 6th, 1912.

I publish this as one of those rare patients who are extremely sensitive to vaccination. At the same time he showed no improvement.

CASE 5.—E; female with a chronic vaginal discharge for 18 months. For 10 days the left wrist had been swollen and extremely painful on the slightest movement; an enlarged and tender axillary gland. Jan. 29th, 1913: 750,000,000 in 1 c.c. of a polyvalent (10 strains) [illegible] ed one month almost dry and diluted [illegible] cal reaction. The condition of the [illegible] had disappeared and the joint was only painful on the fullest movements. Same diminution appeared on ganglion. 1,250,000,000 of same in 1½ c.c. 19th: Very slight local reaction; wrist was entirely free; there was a slight grating unnoticed by patient. March 10th: Seen again. Patient was entirely free from any joint disorder and had no discharge.

CASE 6.—F, male, aged 38. Urethral gonorrhœal discharge, always slight, dated from one month ago; arthritis of several joints for three weeks; orchitis and epididymitis for five days. Patient could not move his wrist nor shoulder and could just hobble. He had been in bed and treated for ten days without relief. Jan. 11th, 1913: 250,000,000, in 1 c.c. saline, of sensitised polyvalent gonococcal vaccine preserved almost dry, one month. 13th: Very slight local and general reaction; temperature rose to 37·8° C. The disappearance of the pain was most remarkable. The wrist could be freely moved. There was, however, no diminution in the volume of the testicular mass. Discharge unaltered. He walked quite well. 500,000,000 of same in 2 c.c. saline. 15th: Very slight local and no general reaction. Pain had entirely disappeared. Epididymis and testicle just distinguishable, the former still sensitive to pressure. Discharge very small. 500,000,000 of same in 2 c.c. 18th: Very little local reaction, none general. Mass was gradually diminishing in volume and the elements were distinct. Feb. 12th: Patient reported that the same testicle had suddenly and without obvious cause become swollen and tender. The condition appeared to be only transitory and passed away. The testicle was not enlarged or tender, but there were two painful nodules, one in each globus of the epididymis. Discharge only seen each morning. 250,000,000 of same in 1 c.c. saline. 17th: No reaction; patient said there was no morning discharge. 500,000,000 of same in 1 c.c. saline. 24th: No reaction; the epididymis was again painful. Patient had passed blood with nocturnal emission and at stool. Prostate examined; appeared normal. 2,000,000,000, in 1 c.c saline, of sensitised gonococci (10 strains) prepared from a living culture 10 days old; specific serum; sensitisation at 37° C. 26th: Slight local reaction and headache for 12-36 hours. Pain and blood-flow disappeared. 2,000,000,000 of same in 1 c.c. saline. March 1st: Slight local reaction for 12-36 hours. 2,000,000,000 of same in 1 c.c. saline. Slight local reaction only. A small infiltration nodule alone persisted in the globus minor.

CASE 7.—G, male, in-patient. Gonorrhœal urethral discharge for three weeks; for several days both knees and shoulder-joint were swollen and painful; orchitis and epididymitis on left side; temperature 38·6° C. at 11 A.M. Dec. 15th, 1912: 500,000 000, in 1 c.c. saline, of a sensitised polyvalent (10 strains) gonococcal vaccine. 16th: No local reaction; the temperature rose in the evening to 39·3° C. and fell to 37·5° C. this day. The pain had disappeared from the knees and shoulder, and the fluid could now just be detected. The testicle was free from pain, except to pressure, and was smaller. The epididymis and cord remained very firm, but were not so sensitive. The improvement was so definite as to be striking. 18th: 500,000,000 of same vaccine in 2 c.c. saline. 19th: No general or local reaction; testicle normal; epididymis and cord still firm, but not tender. Patient was about the ward. 23rd: 1,000,000,000 of same vaccine in 1½ c.c. 24th: Slight local and general reaction. Jan. 6th, 1913: The discharge was unaltered, but of the orchitis there only remained a small nodular mass of the size of a small pea in the tail of the epididymis, and slight thickening of the cord.

CASE 8.—H, male, aged 28, in-patient. He had twice had generalised gonorrhœal rheumatism with about two years' interval. Then he had a third attack, again following fresh infection or relapse; this had never been relieved despite constant treatment, including antimeningococcal serum during 50 days—doses 5-30 c.c. with 11 days' interval. The patient could not move the knees, thighs, vertebral column, or shoulders, and there was slight stiffness in most other joints. Only the knees contained an exudate and were painful, the shoulder joints were also painful. The patient had been rigid and confined to bed since this last attack, a period of five years. Feb. 26th, 1913: 1,000,000,000 in ½ c.c saline of sensitised gonococci (18 strains) prepared from a living ten days old culture; specific serum; sensitised in stove and cupboard. March 1st. Very slight local reaction. The night and day following injection the patient had headache and malaise. The temperature was as follows; 26th, evening, 37·6° C.; 27th, morning, 38·?° C; evening, 38·3° C.; 28th, morning, 37° C.; evening 37° C. The pain in the knees was markedly diminished; no fluid in right knee-joint; a little still remained in the left. 2,000,000,000 of same in 1 c.c saline. 3rd: No reaction; condition unchanged. 3,000,000,000 of same in 1 c.c saline. 5th: No reaction. 3,000,000,000 in 1 c.c. with ½ c.c. antigonococcal serum. 8th: Local reaction, area 6 cm., painful; after two days still infiltrated; knees not painful. 3,000,000,000 of sensitised gonococci in 1 c.c. saline (14 hours at 37° C., serum A). 10th: Very slight local reaction. Left knee free from fluid and much less pain, and that only on attempting movement. 6,000,000,000 of same in 2 c.c. saline. Slight local reaction only. A sudden change from the fine weather brought back the same condition to the knees. The patient remains under treatment.

CASE 9.—I, male, aged 21. Gonorrhœal urethral discharge; marked [illegible] is; chancre on the lower lip one month; [illegible] He was receiving mercurial injections. [illegible] in [illegible] (18 strains) prepared from a 10 da[illegible] sensitised in incubator and cupbo[illegible] very slight local reaction on the [illegible] receive 30 cg. of neosalvarsan on March 4th, I postponed vaccination. I remarked that in this case neither mercurial injections nor acute syphilis influenced the reaction, nor was the reaction to neosalvarsan marked.

CASE 10.—J, female, aged 19, out-patient. Gonorrhœal vaginal discharge for 2½ years; tendinitis of tendo Achillis with exudation for ten days; less swollen during last two days, but still very painful. March 1st, 1913: 2,000,000,000 in 1 c.c. of sensitised gonococci, polyvalent; Serum A; sensitised in incubator and cupboard. 3rd: Erythema and œdema over area of 10 cm. on arm; headache 24 hours; pain less; swelling hardly noticeable. 1,500,000,000 of same in 1½ c.c. saline. 6th: Reactions similar; pain still less; no swelling. 1,500,000,000 in ½ c.c. saline and ½ c.c. antigonococcal serum, the mixture not being centrifuged after sensitisation. 8th: Reaction similar, but extremely painful; feverishness, 38° C. It was noticed that there was always pain if the serum were not removed. The pain of the tendinitis and the exudation had entirely disappeared

CASE 11.—K, male, aged 23. Sycosis of the beard on the right side and of the moustache and right eyelids; duration 18 months. Culture: Staphylococci aurei and albi. Much previous treatment. Face never irritating. Dec. 7th, 1912: 30,000,000, in 1 c.c. saline (a vaccine made 16 days), staphylococci citrei. No local or general reaction, but patient complained of a marked itching of the face the night following the injection. 9th: 30,000,000, in 1/10 c.c. saline, of a sensitised vaccine, staphylococci aurei isolated from a patient with a suppurating ganglion following a whitlow of the finger. No reaction. This is in marked contrast to the fact that I gave exactly the same dose, first injection, to another patient, and a large abscess followed. Pus from the latter gave the staphylococci aurei pure. 12th: 60,000,000 in 1/5 c c. saline; no reaction. 19th: 150,000,000, in 1 c.c. saline, of his own isolated staphylococci aurei (sensitised, living). 21st: The external surface of the whole upper arm was red, hot, and œdematous; no temperature. 23rd: Less area was affected, but a localised abscess was forming. This abscess exuded much pus from day to day, leaving on Jan. 11th, 1913, a small area of 2 cm. of indurated subcutaneous tissue that pitted on hard pressure. He never had an elevation of temperature over 37·3° C. This strain has in all cases shown most marked virulence. The other vaccines had not vaccinated for this high initial dose. Until the formation of the abscess the improvement in the patient's condition was slow but manifest; and there was no spread of the disease. Since the abscess the condition was worse, and the other side of his moustache region was now affected. Jan. 11th: 50,000,000 of same vaccine (autogenous) in 1 c.c. saline. Slight local reaction, no general reaction; no temperature. 13th: Same dose, 50,000,000 in 1 c.c. saline. The face was remarkably better. There were no new pustules, and the inflammation had subsided. The patient had never had any itching of the face. The abscesses were most rapidly healing up. 15th: No reaction. The beard area continued in a satisfactory condition. Only the regions of the moustache and eyelashes were inflamed. 50,000,000 of same in 1 c.c. saline. 18th: No reaction. Condition most satisfactory; no pustules. 100,000,000 of same in 1 c.c. saline. 20th: Erythema 10 cm., œdema 6 cm.; no general reaction. The moustache and eyelid areas were but red, the former also scaly. There were no pustules. 23rd: All reaction had passed. 100,000,000 of same in 1 c.c. saline. 24th: No reaction. Eczematous condition of upper lip alone remained. 29th: 150,000,000 of same in 1 c.c saline. Feb. 4th: Small abscess formed at site of injection. Pus removed by a pipette gave [illegible] 12th: A pure staphylococcal cultures aerobica[illegible] small pocket of pus had not absorbed. [illegible] Condition unchanged; no new pustul[illegible] saline. 15th: Slight local reaction during two days. [illegible] of same in 1 c.c. saline. 17th: A red nodule appeared at point of inoculation with no serous œdema; no general reaction; satisfactory condition persisted. This may be contrasted with the fact that he was never free from pustules during 18 months of constant treatment, including electrolysis prior to vaccination. 200,000,000 of same in 1 c.c. saline. 19th: Slight transitory local reaction, none general. There were no pustules, and all that remained were two or three patches of hardened epidermal tissue where the eczematous condition had been most marked. 24th: Progress persisted. 250,000,000 of same in 5/8 c.c. saline. 26th: Local redness and infiltration of 3 c.m. in diameter persisted. Cure persisted. March 1st and 3rd: Cure persisted. On the 3rd injection of 500,000,000 of same in 1 c.c. saline. 6th: Slight erythema only. Local reaction of Feb. 26th passing. 10th: Reactions passed. Face still quite clear. It is interest ing to note to what a high resistance the patient had been prepared when commencing with a smaller dose.

CASE 12.—L. Furunculosis for several months; had not been ameliorated by dead unsensitised vaccines or ordinary treatments. Culture [illegible] pure staphylococci aurei. Sep[illegible] living staphylococci aurei. [illegible] perature; no new pustules. 2[illegible] No local or general reaction [illegible] same. Oct. 5th: 5,000,000 in 1¼ c.c. saline 0·8 per cent. [illegible] 1 square inch on the following day; no subjective symptoms; no temperature. Improvement in pustules slight. Oct. 8th: 12,500,000 in 1 c.c. saline. Slight local tenderness; redness 1 square inch; no general symptoms. The local tenderness lasted during three days. Oct. 12th: 25,000,000 in 2 c.c. saline. Very slight local and no general reaction. Nov. 21st: 16,000,000 in 1¼ c.c. saline. Very slight local reaction; no general reaction. 23rd: 32,000,000 in 2½ c.c. saline. The local reaction was noticeable; there were œdema and erythema about 2 inches in diameter which disappeared on the fourth day; highest temperature 37·5° C. 27th: 32,000,000 in 2⅔ c.c. saline. Slight œdema and erythema locally the day following, which disappeared after two days; highest temperature 37·6° C. Dec. 2nd: 56,000,000 in 1⅔ c.c. saline. No local or general reaction. 4th: 56,000,000 in 1½ c.c. saline. No local or general reaction 7th: 100,000,000; very slight local and no general reaction

now non pustular inflamed areas had appeared. It was striking to see this benign form. The patient did not cease work during the treatment.

CASE 13.—M, male, aged 40, out-patient. Furunculosis of neck, duration some months. On the ba

comedones. Culture gave staphylococci aurei and albi. Feb 15th, 1913: 25,000,000, in 1 c.c. saline, of
cultured from acne pustule in pr
reaction. 50,000,000 of same in
reaction; condition unchanged.
26th: No reaction. No new pust

1 c.c. saline. 3rd: Slight local reaction lasting 12–48 hours. Only one small pustule had appeared; the old ones were but red and disappearing. 250,000,000 of same in 1 c.c. saline. 12th. No reaction.

vaccination.

CASE 18.—R, woman, aged 30. Four large *plaques of seborrhœic*

covered by scabs. Cultures gave staphylococci aurei and albi; the colonies of each about equal. Dec 21st, 1912: 5,000,000 of sensitised living staphylococ
1/20 c.c. saline; no
reaction, no progr
cocci albi (P, Case
no march of the
examined on the
area was drier an
(vaccine of N, Case
same in 1 c.c. of saline, slight reaction locally; the redness of area around the injection lasted. The condition was markedly improved; the right ear was practically healed, the left was drier, less inflamed and less red. Th
second course of
same in 1 c.c. sali

nt remained free from his eczematous *condition.*

CASE 20.—T, infan
newly born. Eight
appeared, and after
which were tending

The old plaques were less inflamed and tended to heal. 5,000,000 of
t marked
two parts
inflame.
w bullous
is healed.

during 3 day
inflaming.
½ c.c. saline
March 12th; had had no new vesicles, and was discharged cured. No other treatment was applied.

applied

DONATIONS AND BEQUESTS.—Mr. Samuel Newton, J.P., has endowed a cot at Ashton District Infirmary at a cost of £1000.—Mr. Murdoch McLeod, of Lytham, left the residue of his property—£4500 net—to be divided equally between the Manchester Royal Infirmary and the Christie Hospital, Cancer Pavilion and Home.—At a recent meeting of the Governors of Nottingham Hospital it was reported that when Mr R. M Knowles, a former high sheriff of the county, was asked to give some evergreens for ward decorations at Christmas he sent instead a cheque for £1000, suggesting that that might be of more permanent use.

THE TESTS FOR ACETOACETIC ACID, INCLUDING A SIMPLE NEW TEST.

BY WILLIAM HOLDSWORTH HURTLEY, D.SC. LOND.,
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THE tests at present in use for detecting acetoacetic acid, excluding those which depend upon its conversion into acetone, are as follows :—

1. *Addition of a solution of ferric chloride.*—This test was discovered by Gerhardt[1] in 1865. He found that the reagent only gave the characteristic colour with the urine of some and not with that of all diabetic patients, and with the urine of notorious drinkers. For a long time he was unable to ascertain what the substance was which caused the colour formation; he then observed that the colour was identical in appearance with that given by a substance which Geuther had obtained in 1863 from ethyl acetate by acting upon it with sodium and acidifying the product. Geuther called his new compound diacetic acid ether, and also dimethylene-carbonic-acid ethylene ether, and later (1865) he called it ethyl diacetic acid. He showed that it could easily be decomposed into acetone, carbon dioxide, and alcohol. This compound is now called ethyl acetoacetate, and Gerhardt believed that it was this substance which caused the colour when ferric chloride was added to certain urines; he also expressed the opinion that acetone, which had been found in diabetic urine ten years before his discovery, is a decomposition product of diacetic acid ether.

Deichmüller,[2] at the instigation of Ebstein and Tollens, and Tollens[3] showed in 1881 that ethyl acetoacetate does not occur in diabetic urine, for if it did such a urine should yield by suitable treatment very nearly four parts of alcohol for every five parts of acetone. They distilled two litres each day of a urine which gave a strong iron reaction until they had worked up 40 litres. From this distillate they prepared pure acetone, but they could obtain no test at all for alcohol. Tollens also showed that if ethyl acetoacetate is added to a urine and the urine is then distilled some of the substance always distils unchanged, and the distillate smells of it and gives a colour with ferric chloride; a diabetic urine never does this. They therefore concluded that the colour-producing substance was acetoacetic acid or its salts, not its ester.

The name diacetic acid, which was originally applied by Gerhardt, following Geuther, to ethyl acetoacetate, is still often used as a name for acetoacetic acid; its use might very well be discontinued. The delicacy of the ferric chloride test when tried on a solution of sodium acetoacetate is very nearly 1 in 100,000; it is less than this in urine on account of the presence of other substances which give a red colour with the iron salt. It has also the disadvantage that numerous drugs give with ferric chloride a violet colour very similar in tint to that given by acetoacetic acid.

2. *Arnold's test.*[4] [5]—This valuable test does not appear to be as well known as it deserves to be. Two solutions (*a*) and (*b*) are made as follows. (*a*) 1 grm. of para-aminoacetophenone is dissolved in a little water with the aid of 2 c.c. of concentrated hydrochloric acid, and the solution is made up to 100 c.c. (*b*) 1 grm. of sodium nitrite is made up to 100 c.c. Two volumes of (*a*) and 1 volume of (*b*) are mixed, and an equal volume of urine is added to the mixture, then a drop or two of strong ammonia. A reddish-brown precipitate is produced. To a portion only of this a large excess of concentrated hydrochloric acid is added (15 c.c. to 2 c.c.). If acetoacetic acid is present a fine purple colour is produced. Arnold strongly recommends filtering the urine through animal charcoal before applying the test. He states that in this way the delicacy of the test is increased and also more urine can be added to the mixture of (*a*) and (*b*) than can be added if unfiltered urine is used.

Lipliawsky[6] states that the sensitiveness of the test is increased if, after adding the hydrochloric acid in excess, 3 c.c. of chloroform and 2 to 4 drops of ferric chloride are added, and this mixture cautiously shaken in such a way as to avoid an emulsion; the purple colour is taken up by the chloroform, forming a very stable solution. The explanation of the colour is that the aminoacetophenone is diazotised, forming the compound $CH_3CO.C_6H_4.N:N.Cl$, which couples up with the acetoacetic acid and produces the colouring matter, $CH_3CO.C_6H_4N:N\,CH\begin{smallmatrix}\diagup CO.CH_3\\ \diagdown COOH\end{smallmatrix}$. This formula is given to it by Riegler,[7] who obtained it in a crystalline condition.

The test is very delicate—1 in 40,000 according to Lipliawsky.[6] Ethyl acetoacetate gives the test as well as acetoacetic acid and its salts, but as far as is known it is not given by any other substances. It can be applied, therefore, to the urine of patients who have been taking salicylic preparations, antipyrin, and the like.

Arnold[5] claims to have shown by this test that acetone only occurs in urine in the severest cases of so-called acetonuria, such as grave cases of diabetes. Thus in a case where Legal's acetone test is positive, while Gerhardt's test is negative, Arnold's test for acetoacetic acid is positive; and if the urine in such a case be just alkalised with sodium carbonate and shaken with ether the ethereal extract will show neither Legal's nor Arnold's test, whereas if acetone were present it should show Legal's test but not Arnold's. If the urine is now acidified with sulphuric acid and extracted with ether the extract will show both tests.

3. *Absorption of iodine.*—This test is due to Riegler.[8] 15 c.c. of urine are shaken with 2 c.c. of a 10 per cent. solution of iodic acid and 2 to 3 c.c. of chloroform. In the presence of acetoacetic acid the chloroform remains colourless; in its absence the chloroform is coloured violet by liberated iodine. The explanation of the test is that there are substances present in urine which reduce iodic acid to hydriodic acid, which is then oxidised by unchanged iodic acid to water and iodine, the latter colouring the chloroform unless acetoacetic acid is present, in which case iodoacetoacetic acid—a colourless substance—is produced :

$$CH_3COCH_2COOH + I_2 = CH_3COCHICOOH + HI.$$

The chief substance in urine which reduces iodic acid is uric acid; but some urines contain so little uric acid in the amount taken for the test that no iodine is liberated. To overcome this difficulty Riegler[7] modifies his test thus: To 1 to 2 c.c. of a normal urine 2 c.c. of 10 per cent. iodic acid and 3 c.c. of chloroform are added; on shaking the chloroform is coloured violet; now 10 c.c. of the urine to be tested are added and the whole well shaken. If acetoacetic acid is present the colour of the chloroform disappears.

Lindemann[9] pointed out that the conditions necessary for success in applying Riegler's test are that the solution to be tested must be acid and that iodine must be present. He therefore modified the test in this way: 10 c.c. of the urine are acidified with 5 drops of 30 per cent. acetic acid, 5 drops of Lugol's iodine solution (1 grm. iodine, 2 grm. potassium iodide, and 100 c.c. water) are added, and this mixture is shaken with 2 or 3 c.c. of chloroform. No colour appears if acetoacetic acid is present in the urine.

In this form the test is approved by Riegler,[7] who points out that an idea of the amount of acetoacetic acid present can be formed from the amount of the iodine solution required to be added to produce a violet colour in the chloroform. The test is described as being more delicate than Gerhardt's, but less delicate than Arnold's. No other substance, which is likely to occur in appreciable amount in a urine, than acetoacetic acid gives the test.

Quite recently this test has undergone a further modification by Ondrejovich[10]: 5 c.c. of the urine are acidified with 5 drops of 50 per cent. acetic acid, and 1 drop of a 1 in 2000 solution of methylene blue is added; the liquid should be distinctly blue. On adding 4 drops of tincture of iodine the liquid turns red, but if acetoacetic acid is present in the urine the red colour turns blue or green at a speed which depends on the amount of the acetoacetic acid present.

Ondrejovich points out that if the urine is made too acid the restored colour of the methylene blue is green instead of blue; also that there are substances in urine besides acetoacetic acid, such as indican, which combine with iodine, but they are present in minute amounts and act far more slowly than acetoacetic acid. It is clear that this test is quantitative in the same sense as Lindemann's modification described above. No other substance than acetoacetic acid shows the test. Ondrejovich claims that it exceeds all the previous tests in delicacy. In this form the test is certainly a valuable and a sensitive one. In using the test I find that Lugol's iodine solution acts quite as well as tincture of iodine; also that when the amount of acetoacetic acid is very small the iodine—even Lugol's, which is less than half the strength of ordinary tincture of iodine—must be added very cautiously Thus, 5 c c of a 0 01 per cent solution of pure acetoacetic acid would only require two drops of Lugol's iodine solution

4 *Rothera's modification of Legal's test* —This test—which consists in adding 5 grm of ammonium sulphate to 10 c c of the urine, then 3 drops of a 5 per cent solution of sodium nitroprusside (freshly made), and 2 c c of strong ammonia, when a fine permanganate colour is obtained—is described by Rothera [11] as characteristic for acetone The limit of delicacy of the test is given by Rothera as 1 part of acetone in 20,000, at which dilution the colour requires half an hour to develop I find, however, that the test is far more delicate for acetoacetic acid than it is for acetone, the permanganate colour is developed with acetoacetic acid in the form of its sodium salt at a dilution of 1 part of the acid in 100 000 very distinctly in two minutes, and faintly at a dilution of 1 in 400,000 in five minutes Rothera states that both ethyl acetoacetate and acetoacetic acid fail to give the permanganate colour with his test Owing to the kindness of Dr F G Hopkins I am able to give what appears to be the correct explanation of this discrepancy Dr Hopkins informed me that Rothera s test for acetone is inhibited by the presence in the acetone of ethyl acetoacetate Acting upon this information, it was found that quite small quantities of the ester completely inhibited the test when applied to the acid

That the test is really a test for acetoacetic acid as well as for acetone is shown by the following experiments 13 grm of chemically pure ethyl acetoacetate were treated with 100 c c of normal caustic soda solution, and the mixture was made up to 500 c c In 16 5 hours at the room temperature (20° C) 25 c c of this solution required 0 45 c c one fifth normal sulphuric acid for neutralisation, in 44 5 hours it required 0 1 c c of this same acid for neutralisation —that is the ester was practically all saponified From this a solution was made containing an amount of sodium acetoacetate equivalent to 1 grm of acetoacetic acid in 1000 c c A solution of chemically pure acetone was made containing 1 grm of acetone in 1000 c c

(*a*) By means of a pump a rapid current of air was drawn through 100 c c of the acetone solution After three hours suction the liquid failed to give Rothera's test for acetone By means of the same pump air was drawn for three hours through 100 c c of the acetoacetate solution, it gave the test as strongly after the suction as before it

(*b*) 100 c c of each of the above solutions were heated side by side in a boiling water bath in flasks provided with efficient reflux condensers for one hour At the end of this time the acetone solution gave the test unimpaired in strength, but the acetoacetate solution having been hydrolysed to acetone now gave a feebler test than the acetone solution, for 0 1 grm of acetoacetic acid only gives 0 057 grm of acetone on complete hydrolysis

Legal [12] says of his own test that it is a test for acetoacetic acid, as well as for acetone, but not a test for ethyl acetoacetate It would appear, therefore, that Arnold's statement that acetone is of rare occurrence in urine is probably correct, the usual clinical tests applied for the purpose of detecting the supposed acetone are really tests for acetoacetic acid

5 *A new test* —This is performed as follows To 10 c c of the urine add 2 5 c c of concentrated hydrochloric acid and 1 c c of a 1 per cent. solution of sodium nitrite, shake and allow to stand two minutes Now add 15 c c of strong ammonia, followed by 5 c c of a 10 per cent solution of ferrous sulphate or a solution of ferrous chloride of equivalent strength (2 grm of iron in 100 c c) Shake up, pour into a 50 c.c Nessler glass, and allow to stand undisturbed. It is not advisable to filter A beautiful violet or purple colour is produced The reaction is a *slow one*, and the speed at which the colour develops depends on the concentration of the acetoacetic acid in the urine the colour deepens for several hours after its first appearance

The explanation which I offer of the test is that the acetoacetic acid is converted by the nitrous acid into isonitrosoacetone, which forms a salt with the ammonia, the ferrous salt then produces a purple coloured salt from the ammonia salt by double decomposition

$$\underset{\text{Acetoacetic acid}}{CH_3CO\,CH_2COOH} \rightarrow \underset{\text{Isonitrosoacetone}}{CH_3CO\,CH:NOH} \rightarrow \underset{\text{Ferrous salt}}{(CH_3CO\,CHNO)_2Fe}$$

That isonitrosoacetone in alkaline solution forms coloured salts on the addition of ferrous sulphate was first shown by Dr Martha A Whiteley [13] The test has been tried on several normal and on a large number of pathological urines, and on the urine of patients taking salicylic preparations; but only urines which react with the other tests for acetoacetic acid give this test Acetone does not give the test, but an aqueous solution of ethyl acetoacetate gives a pure blue colour—not a purple—and it only gives the blue colour when much more nitrite is used than is prescribed in the test above As regards delicacy, the test, when performed on a solution of sodium acetoacetate, prepared in the way already described, shows at a dilution of 1 part of acetoacetic acid in 50,000 parts of solution

Of all the tests described it seems the most suitable for obtaining an idea of the amount of acetoacetic acid present in a urine For this purpose a solution containing the equivalent of 1 0 grm acetoacetic acid per 1000 c c is prepared (*ante*) From this, by dilution solutions containing the equivalent of 0 025 0 02, 0 15, 0 01 grm of acetoacetic acid in 100 c c are prepared * The test is now performed according to the prescription given on 10 c c of each of these four and on 10 c c of the urine If the colour develops much more quickly in the urine than in the 0 025 solution, the urine must be diluted 10 or 20 times, and the test repeated on the diluted urine In four or five hours the colours will be well developed and the initially turbid liquids will have become quite clear, the urine can be placed in its position among the standards, and so the percentage of acetoacetic acid is determined with fair accuracy In order to test the accuracy of this method the "total acetone" in the urine of a diabetic patient was determined by the paranitrophenylhydrazine method of Moller [14] The results are given in the table and the amount of β hydroxybutyric acid is included

Date	Per cent acetoacetic acid by colour method	Per cent "total acetone" calculated as acetoacetic acid by Möller's method	Per cent β hydroxy butyric acid	Total urine, c.c
Feb 24th 1913	0 25	0 31	0 83	3880
,, 25th ,,	0 40	0 30	1 09	3960
,, 27th ,,	0 31	0 30	0 82	3420
,, 28th ,,	0 30	0·32	0 82	3670
March 1st ,,	0 30	0 33	0·92	3220
,, 2nd ,,	0 30	0 28	0 97	3000
,, 3rd ,,	0 30	0 38	0 83	3160
,, 4th ,,	0 30	0 33	0 92	3760
5th ,,	0 24	0 24	0 62	1655
,, 6th ,,	0 24	0 19	0 46	2900

It will be seen that the colour method gives quite a satisfactory idea of the amount of acetoacetic acid present in a urine, also that even in a severe case of diabetes there is not much acetone present as such in a fresh urine The highest percentage of acetoacetic acid I have observed so far in four different cases and about 60 specimens of urine is the 0 4 per cent recorded above when 43 grm of β hydroxybutyric acid were excreted in the 24 hours

This question of acetoaceturia (rather than acetonuria) is still engaging my attention I propose to examine some of the methods for the separate determination of acetone and acetoacetic acid I am greatly indebted to Dr A E Garrod, F R S, for allowing me to have specimens from his ward, the four cases examined were all in his wards I am also much indebted to Mr F Cahen, my assistant for much help in the experimental work of the paper

[illegible]

12 Legal Zeitschrift [illegible]
13 Whiteley Journal of the Chemical
14 Möller Zeitschrift für klinische

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* These standards do not keep longer than five or six days

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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NOTE ON A CASE OF PRIMARY HYDATID OF BONE.

BY C. E. RUSSEL RENDLE, F.R.C.S. EDIN.,
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THE patient, a woman aged 67 years, came as an out-patient to the South Devon and East Cornwall Hospital complaining of the inconvenience caused by a large tumour over the sacral region, which prevented her sitting or lying back with any comfort. She had a small lipoma in the right hypochondrium which had been there for over thirty years, and stated that the lump behind had been gradually enlarging for nearly four years. It measured about 10 in. by 6 in., was situated over the right sacrum and sacro-iliac joint, extending a little beyond the middle line; it was dull to percussion, of doughy consistency, no thrill, no definite fluctuation. I admitted her with a view of removing the tumour, which I took to be a lipoma or thyroid dermoid.

The tumour was more or less definitely encapsuled, but while freeing the base, which was firmly attached over the end of the ilium, I cut across a tube with a glistening membrane which turned out to be the lining of a hydatid cyst. A probe passed some 4 or 5 inches through a very small opening into apparently a bony cavity. I enlarged the opening and scraped out a considerable quantity of membrane and daughter cysts and drained the cavity. There seemed no connexion with the abdomen. The patient went on very well for some time, the wound gradually closing up, but she was the subject of chronic bronchitis, which troubled her a good deal, and suddenly her heart began to fail, and she died in two days.

At the post-mortem examination no hydatid could be found in any other organ of the body; the brain was not examined, but there was no reason to suspect anything wrong there. The ilium was found to be hollowed out into a large irregular cavity, with the remains of some membrane, and I can only conclude that it was the situation of the primary cyst, which had expanded and thinned the posterior margin, and finally burst through and overflowed into the subcutaneous tissues of the back. The patient had never been abroad, but had lived all her life in the neighbourhood.

NOTE ON THREE CASES OF SPLENIC ABSCESS OCCURRING IN SO-CALLED "MALARIAL CACHEXIA."

BY F. E. WILSON, M.B., CH.B. EDIN,
CAPTAIN, I.M.S., AGENCY SURGEON, MESHED, PERSIA.

DURING the past few years I have been struck with the frequency of splenic abscess occurring in cases of so-called "malarial cachexia," and by the disappearance of the "cachexia" on treatment directed against the local condition. So common is it in my experience that I now make it a practice to look carefully for evidences of splenic suppuration in all cases of malaria with splenic enlargement which are resistant to ordinary treatment.

on which I rely in making a diagnosis in such ontinuance of fever under thorough quinine r the disappearance of all forms of the ripheral blood; (2) local evidences of rence to the abdominal parietes; and probably occurs in the spleen is the trophied splenic tissue, this being e blood stream. Unfortunately y facilities at my disposal to sm in each instance. Below I ses.

Tochi Valley; a small poorly developed man in advanced cachexia. The spleen was adherent to the abdominal wall, which was ideally thin for palpation. About 1½ pints of viscid, yellow pus were removed, and a soft drain was left in the wound. The man went out very much improved.

CASE 2.—Male, aged 35, Peshawar; in advanced cachexia. The adhesions were less firm in this case, and the surface of the spleen was first stitched to the abdominal wall before opening the abscess. About a quart of pus escaped, followed by a sharp hæmorrhage, but this was controlled by hot saline adrenalin solution. In spite of careful nursing the patient died from exhaustion three weeks later.

CASE 3.—Male, aged 30, Meshed; cachexia not marked. Recent scars from some native actual cautery over the splenic area. A pointing abscess in the abdominal wall leading into the large adherent spleen was opened, the lower margin of the spleen being very hard. About 1¼ pints of thick pus escaped, being followed by slight hæmorrhage. Microscopically this pus contained leucocytes, myelocytes, a variety of organisms, but no malarial parasites. The patient went out greatly improved.

I have ventured to record these cases in the hope that the short notes may be of use to those who are working in tropical or subtropical climates, by directing attention to a common but little described cause of the persistence of apparent malarial cachexia.

NOTE ON A CASE OF ACUTE PULMONARY ŒDEMA IN AN INSANE PATIENT.

BY J. F. CORSON, M.D. VICT., D.P.H. CAMB.,
LATE ASSISTANT MEDICAL OFFICER TO THE BUCKS COUNTY ASYLUM.

THE following case of death from acute pulmonary œdema is of some interest on account of the existence of a peculiar delusion of persecution which may have been associated with a previous pulmonary attack. My acknowledgments are due to Dr. H. Kerr, the medical superintendent of the Bucks County Asylum, for permission to publish the case.

The patient, a female, 30 years of age on admission, was admitted to the Bucks County Asylum on July 16th, 1895. She was pregnant and gave birth to a child four days after admission. Her mental state at that time was one of depression, with anxiety and fears of persons entering her room. She was thin and rather anæmic, and her heart sounds were described as weak and muffled, but it is stated that there was no cardiac murmur. Her health improved and she became fat, and except for some slight degree of anæmia appears to have shown no symptoms of physical disease until her death. Her mind did not recover, and she became chronically maniacal, with frequently recurring exacerbations and remissions. About six months before her death she complained that another patient had put soap into her mouth whilst she was asleep in bed, and that it had nearly choked her. This was not regarded at the time as having any special significance. Her general health continued good, and she worked steadily at the ordinary housework of an asylum ward.

On April 1st, 1911, the patient was found dead in bed at 10.15 P.M. by the night nurse. When I saw her she was lying on her back, her nose and lips were covered with white froth, and her lips were livid. According to the accounts of fairly reliable patients in the same dormitory, she got out of bed shortly before 10 o'clock, and was seized with a severe attack of coughing. She returned to bed and the coughing continued for some minutes, and she complained of pain in the chest. She was quiet afterwards, and was thought to be better again.

At the post-mortem examination the heart was found to be hypertrophied, and weighed 12 oz. There was marked stenosis of the mitral orifice; the mitral valve was thickened and there were small vegetations on the cusps. The aortic valve cusps also showed small vegetations. Both lungs were distended and filled with frothy exudation.

The case appears to have been one of acute pulmonary œdema, and the delusion that soap had on one occasion been put into her mouth during sleep may have arisen from a previous attack.

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SPECIAL MEETING OF FELLOWS

Continued Discussion on Alimentary Toxæmia [1]

A MEETING of the Fellows of the society was held on April 21st Sir FRANCIS H CHAMPNEYS the President, being in the chair

Mr P LOCKHART MUMMERY in reopening the discussion said that little was known as to the true pathology of alimentary toxæmia He disagreed with Mr Lane as regards the so called adhesions found in cases of alimentary toxæmia and pointed out that in many instances they were not real adhesions but abnormal folds of peritoneum He attributed the cause of this condition to the neglect of constipation in early life He insisted upon the importance of a careful

said he believed that many of the crippling cases of chronic arthritis owed their origin to alimentary toxæmia and that the disease might be arrested in its early stage by proper treatment directed to cure the condition of the colon As regards the choice of operation Mr Mummery was in favour of appendicostomy when possible and thought the more serious operation of eserved for those cases in to give relief He attache careful after treatment in these cases and pointed out that acetonuria more frequently occurs after operation in cases of alimentary toxæmia than after operations in which this condition is not present

Professor ARTHUR KEITH said that he came forward that evening as a representative of that humble and somewhat neglected group of men whose business it was to impart a sound knowledge of the structure of the human body to medical students and medical practitioners It seemed to him that the present generation of anatomists had appeared at an unfortunate time when medical men in general and surgeons in particular, had lost faith in human and comparative anatomy as a source of help in enabling them to solve the practical problems of applied medicine He wanted therefore to place before the Fellows the anatomist s point of view—so far as it bore on the present discussion During the last 20 years our teaching and our research had been greatly influenced by the various movements which had cumulated in the present discussion In reality this discussion centred round the nature and function of the great intestine He would deal first with the formation of peritoneal adhesions—a matter which had received and which was receiving a great deal of attention from anatomists Anatomists were at once brought face to face with one of the most striking of all the developmental changes seen during the growth of the fœtus There could be no doubt that man came of a stock in which the mesentery and bowel were originally arranged in a primitive and simple manner for in the second month of development the human intestine and its mesentery had the lineal arrangement seen in the lowest mammals Then during the third fourth and fifth months of fœtal life a profuse adhesive process set in—a regulated embryological peritonitis—which led to the cohesion of mesenteries and viscera to the posterior wall of the abdomen—an adaption as they supposed to the upright posture for it was only in those upright forms that we found these adhesive changes take place After the fifth month the process of adhesion proceeded more slowly and was completed about the time a child learnt to walk. The extent of the process was extremely variable How variable it was one could readily see by consulting recent papers by Dr Douglas Reid the monograph by Dr Henry M W Gray and Dr W. Anderson, or the fine treatise on the appendix by Kelly and Hurdon In about one newly born child out of every ten the process of adhesion would be found to have bound the mesentery of the lower part of the ileum to the pelvic fossa giving the condition which was associated with ileal kinking The extent to which adhesions were produced between the cæcum and ascending colon varied but a condition which gave rise to a "Jacksonian membrane was not rare, wide adhesions at the region of the hepatic and splenic flexures were always present—all these adhesions were parts of a normal embryological and useful process They recognised however, that all peritoneal adhesions in the ileo cæcal region were not embryological and normal, one saw occasionally in adult bodies a degree of adhesion never seen in the child at birth and anatomists recognised that some of the adhesions were the result of pathological processes The majority of the adhesions, often regarded as pathological in nature were in reality mere expressions of a normal and healthy fœtal process The question of ptosis or dropping of the viscera was also one which had interested anatomists They had recognised the frequency of this condition before they were aware that Glénard had scheduled visceroptosis as a distinct pathological entity and long before they succeeded in convincing their colleagues, the clinicians of the frequency and the importance of the condition It was a fortunate circumstance that at that time the discovery of Roentgen placed a new means of inquiry in the hands of anatomists A study of the living diaphragm convinced them that the essential feature of the abdominal viscera was not their fixity but their mobility, they were so attached that they could move freely with the respiratory tide It became apparent to all of them that mesenteries and visceral ligaments only came into action when the limits of normal movement were reached, the musculature of the abdominal wall was the essential mechanism for supporting the viscera The pathology of visceroptosis was therefore to be sought in a better understanding of the nerve relationships which existed between the viscera and their supporting walls The researches of Sherrington Hill MacKenzie Elliott and many others showed them how closely the tone and contraction of the abdominal parietes were related to the posture of the body and to the condition of the viscera They had not yet solved the problem of how the tone and contraction of the musculature of the body wall and of the alimentary canal were coordinated but they had sufficient evidence to lead them to suspect they were regulated by a common nerve mechanism It was probable that this mechanism might be acted on and deranged by pathological products generated in the intestine and that visceroptosis was one of the manifestations of alimentary toxæmia He now came to the essential question round which the present discussion had revolved What is the functional value of the human great intestine? At the beginning of the present century a sharp divergence of opinion set in In the years 1902 and 1903 three men—an anatomist Barclay Smith a bacteriologist Metchnikoff, and a surgeon Arbuthnot Lane—came independently and by a different train of reasoning to the same conclusion—so far as man was concerned the great intestine was not only a useless but a pernicious structure That was a very significant fact, in Paris London and Berlin the condition of the great intestine was then forcing itself on the attention of thoughtful medical men To anatomists who knew that the great intestine was an intrinsic part of every air breathing vertebrate that it reached a high degree of development and specialisation in every mammal that included a vegetable element in its diet that in all the animals immediately allied to man—his contemporaries and his very ancient predecessors—the great intestine was shaped arranged and developed as in him —the conclusion that the human great bowel was a useless structure seemed a flat contradiction of every law applicable to the animal body It was hard to believe that a great structure which had served that long chain of ancestors carrying man s lineage through the secondary and tertiary periods of the earth s formation and assisting man to become the dominant and universal species of the world, should suddenly fail him They seemed driven to the conclusion that it was not the organisation of the great intestine that had failed, but that our modern dietary set a task for which it was not adapted In civilized modern communities the great bowel had to manipulate a dietary such as was never before prescribed to it at any stage of its long evolutionary history If an engine ran unsatisfactorily it might not be from a fault in its mechanism but from a defect in the fuel Those who regarded the great bowel as a useless structure blamed the engine; for his part he stood by those who blamed the fuel. Let them look at the evidence on which the useless and pernicious nature of the great bowel was based. The great bowel could be excised and health maintained; that proved it was not an essential structure. If diseased, excision might lead to improved health; that proved no colon was better than a diseased one. What must be proved, however, before they regarded the colon as a useless structure was that a man without a colon was in a better state than the man with a healthy colon. It would be time enough to relegate the great bowel to the list of useless structures when that much was proved. This problem of the great bowel was really a child of our ignorance; we had only a vague knowledge of its rôle in the economy of the animal body. If we kept before us the history of progress in medicine it was not likely that anyone would presume, because he did not know the use of the colon, that it had no function and was a useless structure. Every year saw some structural part, formerly placed with the useless or vestigeal structures, removed from that list. Only a few years ago Pavlov and Starling introduced us to the elaborate mechanism which controlled the exit of the contents of the stomach to the duodenum; it was certainly their investigations which led him to look for a similar mechanism at the junction of the ileum and colon. Elliott demonstrated that such a mechanism existed at the time he was carrying out research on the movements of the great intestine. He (Professor Keith) felt certain that Dr. Hertz was right when he attributed the effects, which Mr. Arbuthnot Lane ascribed as the result of a kinking at the terminal part of the ileum, to a derangement of the ileo-cæcal sphincteric mechanism. Every step forwards in our knowledge cut the ground from under those who took a purely mechanical view of the action of the great intestine. Evidence he had accumulated lately justified him in supposing that the mechanism for regulating the passage of food from the ileum to the cæcum of man was more elaborate than we supposed. Besides the muscular fibres which were situated directly at the ileo-cæcal orifice, and which evidently were designed to secure that orifice against reflux from the cæcum, there was also a mechanism for regulating, as Dr. Hertz suggested, the passage of the contents of the ileum to the cæcum. The musculature of the terminal part of the ileum for an extent of nearly 4 inches (roughly 10 cm.) above the ileo-cæcum junction was endowed with a special tonic function; it served as a sphincter for the terminal part of the ileum. He would also like to take that opportunity of emphasising the need of having every diseased colon removed by operation systematically and minutely investigated. His friend Professor J. W. Smith, of Manchester, had recently given him an opportunity of examining a very complete specimen removed by operation. There was mucous colitis throughout the whole of that part of the great intestine which was excised with abundance of intestinal sand scattered along the lumen. A typical ileum kink was present 4 inches above the ileo-cæcal orifice. The musculature of that part of the ileum was strongly contracted. The terminal 4 inches of ileum was bound down to the pelvic fossa by a peritoneal adhesion exactly similar to that seen in a proportion of normal newly born children. There was nothing in the nature of the iliac adhesion to suggest that it differed in origin and nature from the natural band seen so often in children.

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[1] THE LANCET March 15th (p 754) and April 19th (p 1093) 1913.

Mr. GEORGE ROWELL said that his remarks would be confined to the condition which Mr. Lane had named "chronic intestinal stasis." Among the many subjects included in this discussion on alimentary toxæmia it would seem to be of prime importance to examine and ascertain how far facts supported Mr. Lane's revolutionary proposition. The regard in which the theory was held was changing rapidly, and at the present time the position was of much interest, for every degree of agreement with Mr. Lane was now to be found in the profession. Speaking generally, it would appear that many of those who had given the most attention to the conditions which were actually to be found inside the abdomen were the most in accord with Mr. Lane's views. It was because he had seen a large proportion of Mr. Lane's work on cases of chronic intestinal stasis from its beginning that he ventured to take part in the debate. No one who had seen Dr. C. Mayo's photographs of the ileal kink could doubt the existence of the characteristic band. He had seen this demonstrated to the onlookers at operations scores of times in the most unmistakable manner. He had also seen the fastened-up appendix, crossing and obstructing the end of the ileum, similarly demonstrated on numerous occasions. Whether the new structures causing these two forms of abnormality were inflammatory or not in origin did not matter with reference to the results produced. In both cases it was easy to demonstrate that there was a fixed point, and it was obvious on examination that the sagging of the bowel in the vertical position of the trunk must in each case cause some obstruction. One frequently saw long coils of intestine drawn up out of the pelvis in these operations, of which the only fixed attachment was the point alluded to. What the amount of obstruction actually was would also seem to be not necessarily a matter of moment, the important point being that cases exhibiting these structures displayed in a definite manner the symptoms described by Mr. Lane as those of chronic intestinal stasis. Again, the exact nature of the particular poison in any case was also a minor point so far as diagnosis and treatment were concerned, the weighty consideration here being that when the obstruction was relieved by operation the symptoms disappeared. He had seen the bands which had developed in connexion with the duodenum and the sigmoid demonstrated many times in the clearest possible manner, and he had frequently seen the duodenum dilated, sometimes very dilated, in these cases. In many it had actually presented through the abdominal wound. In operations undertaken for duodenal ulcer he had several times seen ileal obstruction examined for and found. The adhesions described at the splenic and hepatic flexures and those supporting the stomach were also quite familiar to onlookers at Mr. Lane's operations. Most of the operations for the relief of chronic intestinal stasis at which he had been present during the last few years had been previously examined by the X rays and reported upon by Dr. A. C. Jordan. It was nearly always the case that the report had predicted accurately the condition that had been found. Indeed, one of the most striking things that he knew in surgery was the precision with which, when assisted by the X rays, the exact causation and degree of stasis could be diagnosed before operation. In his experience the X rays sometimes showed less than was found at operation; a kink was occasionally missed. Certainly he had never seen a dilated duodenum diagnosed by the use of the X rays that could not be demonstrated at the operation. As showing the importance of the ileal band was a group of cases of which he had seen many examples—patients in whom pain had persisted after the appendix had been removed. In these cases he had seen the ileal band divided and immediate relief result, although one understood that the relief might not be permanent without a short-circuiting. The general effects of chronic intestinal stasis were stated to include the impairment of every tissue. It was not easy to see the connexion; if it were, no doubt this would have been discovered long ago. Take, for example, thyroid enlargement. If it were true that the connexion existed it followed that the relief of stasis ought to diminish the size of the thyroid. Besides the interesting case given in Mr. Lane's introduction, he had on two occasions seen an enlarged thyroid diminish very rapidly after short-circuiting. In Dr. Hale White's opening paper he adduced a case of exophthalmic goitre which disappeared during an attack of typhoid. The rest in bed, the milk diet, and the diarrhœa during the illness obviously must have kept the patient without stasis for some weeks, so that instead of providing an argument against the theory that exophthalmic goitre was associated with chronic intestinal stasis, this case would seem to be in perfect accord with that belief. The cure of duodenal ulcer by rest in bed had a similar significance. With regard to cancer he had often seen the symptoms of long-standing chronic intestinal stasis demonstrated in cases of cancer of the breast, and repeatedly in cases of cancer of the bowel, disease of the gall-bladder and of the pancreas the ileal kink had been clearly shown. Pyorrhœa was a condition held by Mr. Lane to be a result of chronic intestinal stasis, though he (Mr. Rowell) did not suppose that he would deny the possibility of a direct infection, as, for example, from pet dogs. As he saw cases of pyorrhœa almost daily, he would like to remark that he had seen complete cures by vaccines as well as by scrupulous local treatment, and that he knew of many cases in which the cure had been much aided by paraffin internally. Two of his dental friends of large experience in this disease made an almost routine practice of prescribing paraffin for these cases, and one of them had told him that he did not know whether the paraffin or the local treatment had the largest share in effecting a rapid cure. Certainly his experience was that it was quite unnecessary to remove all the affected teeth in pyorrhœa. A large number of facts were being brought to light in various branches of medical knowledge which, when examined, were found to fit in with, and to lend support to, Mr. Lane's theories. The question of infant feeding might be alluded to as an example. In 1901 Dr. Eric Pritchard came to the conclusion that disease in infants, and much in after life, was largely due to over-feeding during the first year. This, he held, caused over-development in the length of the bowel, such overgrowth often extending to many feet, for which there was no adequate room, and therefore peristalsis was impeded, and delay in the passage of the contents of the intestine resulted. For the prevention and treatment of this condition he had given paraffin very largely, and, agreeing with Mr. Lane, was convinced that the constant exhibition of paraffin had a marked effect in both the prevention and the cure of tuberculosis. The fact had been alluded to that he had repeatedly seen the disappearanc [illegible] ore or less rapidly according [illegible] after the operation of [illegible] ithout colectomy. In many of the worst cases the results after some years were even more remarkable. With reference to the points of interest in connexion with anæsthesia in sufferers from chronic intestinal stasis he had already given the results of his experience, and as this matter was of small general interest he would only call attention to the fact that by the use of the method that had been described the risk of the anæsthetic was practically a negligible quantity, and shock and after-sickness were commonly absent. He had never seen acetonuria, probably because he never used chloroform in these cases. To conclude, he would submit, for what it was worth, with great respect to those whose work lay in the diagnosis and treatment of disease, that the facts one had been able to observe, so far as they had gone, completely supported Mr. Lane's views.

Dr. W. Langdon Brown regarded alimentary toxæmia as due to either (1) abnormal intestinal flora or (2) normal intestinal flora acquiring an abnormal habitat. *Pari passu* with the introduction of the normal bacteria into the intestinal tract after birth the body acquired means of defence against them. An infant in whom normal bacteria were planted too early might be unable to resist them, and he instanced cases of septicæmia due to B. coli and B. aerogenes capsulatus thus induced. A similar diminution in resistance was seen in old people in whom B. coli septicæmia might occur without local lesions. Proteins putrefied and carbohydrates fermented; and to a certain extent these processes were antagonistic. It was the aromatic groups and the sulphur groups in the protein molecule which were specially prone to putrefaction. The ordinary products of putrefaction were rendered inert by conjugation with glycuronic acid or sulphates. Garrod had prognosticated the approach of carboluria by finding the proportion of ethereal sulphates in the urine rising, which was a more reliable sign of impending toxæmia from putrefactive bodies than the presence of indican, which also had the disadvantage of being unstable and disappearing from the urine on standing. The comparative failure of the phenol compounds as intestinal antiseptics was probably due to their depriving the body of the power of rendering putrefactive bodies harmless by combining with the sulphates. On the other hand, the value of sulphates in the treatment of certain intestinal conditions was not limited to their aperient action, as in this way they had an antitoxic action also. To illustrate the point that abnormal intestinal bacteria were responsible for toxæmia in many cases he dealt with microbic cyanosis, paroxysmal hæmatoporphyrinuria, and the formation of pressor diamines. In each of these there was evidence of the action of some special organism, and he thought that renewed study of these conditions, where the chemical changes were relatively simple, would probably throw light on the vaguer states often referred without positive evidence to alimentary toxæmia. The reaction of the body against these simple poisons was quite different to that adopted against foreign proteins and bacterial toxins. No antibodies were developed, but simple processes of oxidation, dehydration, and combination with glycuronic acid, bile salts, sulphates, and possibly glycogen occurred. The fact that the poisons in so many of these cases were not antigens considerably limited the application of vaccine therapy in alimentary toxæmia. He called attention to oral sepsis as a factor in producing atonic dilatation of the stomach, and adduced evidence against the recent view that the amount of acid in the gastric juice determined whether or no oral sepsis would set up rheumatoid arthritis.

Mr. Edred M. Corner said that the history of the progress of the infection of the alimentary canal with micro-organisms was very important, and must be thoroughly understood by those who desired to appreciate the practical bearings of the subject of alimentary toxæmia. Briefly, the life-history of an hypothetical individual with regard to alimentary toxæmia might be set forth as follows. As with the great majority of others, whilst the fœtus was in utero the contents of the alimentary canal were sterile and the physiological processes of digestion were inactive, so there was no chemical change taking place within the alimentary canal, toxins could not be produced, and any alimentary toxæmia was impossible. But with birth, or soon after, organisms were introduced into the alimentary canal and a life-long intestinal education was begun. Being unused to the products of the action of micro-organisms the baby's tissues suffered. This was seen in the very frequent gastro-intestinal irritation of the newborn, breast-fed or artificially fed; also, perhaps, in the secretion of fluid by the peritoneum in the abdomen, seen when a patent processus vaginalis was present as a hydrocele. Should the baby's resistances overcome its alimentary toxæmia all would be well. But should the actions of the toxins prevail the child would get rickets, a result of the action of what might be called alimentary toxins on the growing tissues. Of course, alimentary toxins, or toxins absorbed from the alimentary tract, were not the only ones that could produce such deleterious action on growing tissues. Others might be absorbed from the tonsillar region. Still our profession regarded the alimentary toxins as the most important by far in the production of rickets. Rickets was not the only result of severe alimentary toxæmia in childhood. Many other diseases might be mentioned, such as wasting, thrombosis, osteoarthritis, and so forth. Indeed, by lowering the resistance of the tissues of the child alimentary toxæmia might be said to render the entrance of organisms to the body more easy. Thus it would dispose to tuberculosis of the mesenteric glands, and to an infinite number of diseases. From this life-long intestinal education we learnt to endure alimentary toxæmia until a certain amount of alimentary toxæmia was physiological to us and necessary to our well-being; our powers of resistance to such toxins increased and increased until with mature years and equanimity we could overcome such a feast as the "City banquet." As life progressed the tissues of the alimentary tract were affected directly and the rest of the body indirectly. The results of the organisms in the alimentary tract were known, and formed different chapters, so to speak, in our book of intestinal sepsis. Appendicitis was at once the most frequent and dangerous result of intestinal sepsis. Colitis and its ulcerative form were others. Later in life there were gastric and duodenal ulcers. All the affections mentioned hitherto affected primarily the mucous membrane of the bowel. But the sepsis affected more than the mucous membrane. The action of the muscular coats might be interfered with, producing delay in the passage of the intestinal contents—constipation, or, as it had been called, "intestinal stasis." But in addition to the inner and middle coats of the bowel the peritoneal covering membrane might be irritated—in the young leading to the formation of a hydrocele, and in the older to the formation of adhesions. The results and treatment of the adhesions, and the kinks caused by them, had already been gone into by Mr. Arbuthnot Lane. It must suffice that of his (Mr. Corner's) own experience he could tell them that some patients were vastly improved by such operations as short-circuiting or colectomy, with and without appendicostomy, others were neither better nor worse, whilst a small number were even made worse by any attempt at operation. In the excitement and heat of so large a discussion as this, points of practical issue were apt to be overlooked or buried in accumulation of theories and scientific observations. That some patients were vastly improved by operation was, he knew, beyond doubt, and he thought that improvement could not have been attained by any other means. Therefore he would strongly urge that for our future progress data be suggested by means of which we could differentiate those who would be improved by operation from those who would nor be benefited. This was very important from both the patient's and the surgeon's point of view. Surgeons owed many of their failures and inabilities to improve patients suffering from alimentary toxæmia because so much time had been lost before it was decided to resort to operative treatment. This brought him to a further point which he would strongly insist upon. Alimentary toxæmia was a progressive disease, or, perhaps better, the results of alimentary toxæmia were progressive; so that if the consideration of operative treatment was delayed, more and older changes (adhesions, mesenteries, &c.) would be encountered, and the surgeon would have still less chance of being able to benefit the patient. His inability to do so was not his, the surgeon's fault. It was the unfortunate result of delay; perhaps unavoidable, perhaps avoidable. And it must never be forgotten that the intestinal tract was only one of many systems of excretion whose faults might give rise to auto-intoxication. In conclusion, he would insist that the terms alimentary stasis and alimentary toxæmia were not synonymous. People might enjoy well-being, and perhaps health, while suffering from intestinal stasis, *if the intestinal contents dried and the micro-organisms consequently died.* But where the intestinal contents were *moist and organisms were abundant*, fermentation must occur, and alimentary toxæmia became sufficiently marked to require treatment. A course of waters and purgatives might accomplish the result required, provided no kinks or other variety of intestinal obstruction was present. Thus when alimentary toxæmia was recognised clinically, he would suggest that treatment by means of diet and purgation should be begun. While it was in progress an X ray examination should be made of the progress of the intestinal contents along the alimentary tract. If any obstruction existed, the surgeon must obviate it. But his work "merely made the paths straight" and afterwards treatment by diet and medicines must be continued.

Mr. **PETER DANIEL** said that he would like to state quite clearly at the onset what his views on intestinal toxæmia were and then to discuss the reasons why he held those views. They were: 1. That gastro-intestinal toxæmia was one of the commonest everyday causes of symptoms of diseases, if not the commonest. 2. That it was due to infection of the gastro-intestinal mucosa. 3. That in adult life such infection originated almost invariably from some suppurating septic focus in the mouth and nasopharynx or the nose and its accessory sinuses. 4. That it might be extremely slight in degree and manifestation, or intense and fatal. 5. That it was the common source of disease of the liver and gall-bladder and the pancreas; that gastric and duodenal ulcers and many other ulcerative processes were terminal phases of the infection. That appendicitis was but part of the infective process progressed to such a degree as to be of sufficient moment to merit special treatment. 6. That peritoneal infection leading to adhesions, thickenings, bands, and all their consequences, was the inevitable result of chronic infection of the mucosa. 7. That as a result of the infection the function of the mucosa and the chemical processes of digestion were perverted and interfered with. Also, that the musculature of the organs was always detrimentally affected, leading to weakness of action, so that finally the organs did not properly empty themselves nor did they propel their contents at a normal rate. 8. That visceroptosis was an exceedingly common outcome of such prolonged infection, from influences already indicated, and thus a vicious circle was set up. 9. That the sphincters did not function normally when the mucosa lining them was inflamed; the exact reaction generally depending upon the degree of inflammation. 10. That evolutionary bands were always secondary to visceroptosis and, like the latter, were due to chronic infection of the mucosa. 11. That ileal stasis was not due to bands and such mechanical agencies in the main, although such might aggravate the stasis in a limited number of cases, but that the stasis was always an evidence of the presence of chronic infection of the bowel and was due to it. The stasis disappeared when the infection was cured, although the bands might remain. That many cases of stasis were apparent and not real—i.e., the ileum contained a bismuth meal unduly long because the stomach (the reservoir which supplied the ileum with its bismuth meal) was unable to empty itself at the normal rate. Thus there was a constant dribble of bismuth meal coming along into the ileum, and as long as this dribble persisted so long would the ileum show a shadow. 12. That in considering ileal stasis insufficient attention was devoted to the altered physiological processes as a cause of delay. 13. He did not believe that "food toxins" played a great part in the symptomatology of intestinal toxæmia, because if one cured the septic lesion of the mucosa without in any way altering the food of the patient one cured invariably the symptoms of toxæmia. They had also been told on good authority that the food toxins were not poisonous when taken by a healthy person by the mouth, and experimental research had shown that they were not absorbed when manufactured *in situ* in the bowel as long as the intestinal mucosa was undamaged. Under all counts, therefore, before food toxins could take part in producing toxæmia the mucosa must be damaged already. It was the bacteria swallowed from the septic focus in the upper digestive tract which damaged the mucosa. 14. What he believed to be the most potent toxin in the process of intestinal toxæmia was the toxin evolved by the bacteria themselves, especially the cocci which were found in such numbers in these septic cases in the mucus adhering to the mucosa and in the epithelial layers of the membrane. In the examples given by previous speakers of food poisons he would indicate that the underlying reason why the particular patients suffered poisoning was because they were in a septic state. The literature teemed with instances of Henoch's purpura being associated with sepsis in the gastro-intestinal tract. Scurvy in particular he had no hesitation in ascribing to oral and gastro-intestinal sepsis. Stasis was quite unnecessary for toxæmic absorption; a bladder acutely inflamed ejected urine much more frequently than normal, yet the patient had fever and other symptoms of toxic absorption.

Mr. **C. H. FAGGE** intervened in support of the view for so many years advanced by Mr. Arbuthnot Lane, that in many cases of intestinal toxæmia mechanical factors, in the shape of adhesions, bands, a false mesentery, produce kinks with intestinal stasis as their result, and that the operative treatment of these kinks is of the first importance.

Mr. **H. W. CARSON** wished to limit his remarks to that form of intestinal toxæmia which resulted from intestinal stasis, and referred briefly to two conditions—viz., parenchymatous goitre and the mastitis of young unmarried women, the cure of which, he thought, depended upon the cure of intestinal toxæmia. He considered that intestinal toxæmia resulted from excessive bacterial action and diminished elimination of toxins in the intestine, and that this was dependent on stasis of the intestinal contents. He believed that constipation was the original cause, and that as a result the cæcum, weighted down by retained fæcal matter, tended, in the erect position, to prolapse, and stasis also occurred in the ileum as a result of backward pressure. To overcome the tendency to prolapse bands formed in certain definite positions—between the parietal peritoneum and the ascending colon, the first part of the sigmoid and the terminal part of the ileum. These bands were not inflammatory, but were at first protective in their action, though later they interfered with peristalsis and even caused definite organic obstruction. From the point of view of treatment the important factor was the preliminary stasis in the cæcum and ascending colon. Medicinal treatment should be tried at first, but if ptosis was marked, and especially if adhesions were present, it would probably be ineffectual. He considered that the presence of adhesions could be demonstrated by an X ray examination after a bismuth meal and by the character of the pain. Operation was justifiable if thorough medical treatment had failed to give any, or only temporary, relief, and also in cases of adhesions. The choice of operation lay between dividing adhesions and short-circuiting the large intestine by implanting the proximal end of the divided ileum into the pelvic colon. If the first course was adopted the cæcum should be anchored by sutures into the right iliac fossa. Operation must be followed by six months' medical treatment.

Mr. KENNETH W. GOADBY said that much stress had been laid upon "swallowing pus," as if this fluid in itself was the actual cause of intestinal disturbance. It appeared more reasonable to regard the local absorption and infection through the actual site of inflammation as the chief means of invasion. Particularly must this obtain in *pyorrhœa alveolaris*, where the primary effect was lowering of general bod[illegible] sion of the mucosa of [illegible] the curious comple[illegible] ith the condition. He [illegible] ive and unselected cases of suppuration of the alveolar process of the jaws. Thirty-six—i.e., 24 per cent.—had no general *symptoms*, notwithstanding the swallowing of pus for at least two years; 64, or 42 per cent., had definite symptoms of gastro-intestinal affections. Localised points of infection, not generalised suppuration, were associated with the largest number of cases with intestinal symptoms. Again, 56 per cent. of all the cases had rheumatic symptoms. In none of the cases was gastritis an acute symptom, and no history of gastric or duodenal ulceration was obtained in any case. Anæmia of secondary or toxic type was a feature in 66 cases. Affections of the portals of the alimentary canal produced secondary changes in the whole organism, not so much by the passage of their products into the stomach as by the entrance of bacteria and their toxins into the blood stream in the affected areas, while conversely processes of the lower parts of the alimentary canal or blood might affect the oral tissues. In the treatment of pyorrhœa alveolaris both local and general measures were essential. General and local resistance should be increased by means of autogenous vaccines, and followed by surgical treatment upon ordinary lines. He entirely dissented from the proposition that the only remedy for pyorrhœa was extraction.

Mr. E. C. HUGHES drew attention to the peritoneal bands which are frequently met with in the abdominal cavity, without any sign of inflammation of the contained viscera. He considered them to be developed to prevent the downward displacement of the intestines. Lane's ileal kink and band showed three chief characteristics: (1) it was 3 to 4 inches away from the termination of the ileum; (2) the band was attached to the antimesenteric border rotating it; and (3) the band was on the under surface only of the mesentery. Could an inflammation of the appendix produce the same result in 100 per cent. of cases? The ileal kink was certainly evolutionary in origin. In the [illegible] frequently affected by these bands, one or other of them getting attached to it at some part of its length, so that its mobility was impaired. But the more common position of the appendix was for it to be attached to the under surface of the mesentery of the small intestine, either entirely or almost entirely with the terminal inch free. In this condition the appendix was acting as a suspending ligament of the cæcum. These adhesions were responsible for nearly all cases of acute and chronic appendicitis. The adhesions impaired the mobility of the appendix, so that it was unable to discharge its secretions efficiently; the secretions accumulated and formed the fæcal concretion. Conditions were favourable to the development of bacteria in the stagnating contents. An acute inflammation of the appendix, beginning in the interior, might arise at any moment, the virulence of the affection depending on the quality and quantity of the bacteria and the resistance of the individual. The appendix, which was partially adherent and had its termination free, was liable to kinking or torsion at the junction of the fixed and movable parts; a complete and lasting kinking would be followed by gangrene of the movable part; a temporary kinking *on being relieved would be followed by intense* congestion and finally recovery. The symptoms and results of the former type would be far more severe than those of the latter, where no opportunity would have been afforded for the growth of bacteria. It was on account of the impossibility of knowing which type of appendix was at fault that the appendix must be removed at once in an attack of acute appendicitis. Chronic appendicitis was due to the same causes, [illegible] r less marked. Removal [illegible] In appendicular dyspe[illegible] over the right iliac fossa there were the symptoms of duodenal ulceration, removal of the appendix frequently cured the condition. But there was a large number of cases where the removal was followed by no benefit. It was probable that those cases were cured, in the absence of an ileal kink, where the appendix was acting as the suspensory *ligament of the cæcum, and as it did so through its attachment* to the mesentery it obstructed the ileum, behind which it was passing, and caused a delay in the discharge of the ileal contents into the cæcum. Anyone who had seen much of Mr. Lane's operative work must be convinced that his explanation of intestinal stasis was correct, but it was not yet clear what were the indications for operative treatment.

The debate will be resumed on Monday, April 28th, at 5 P.M.

SECTION OF LARYNGOLOGY.

Exhibition of Specimens and Cases.

A MEETING of this section was held on April 4th, Mr. HERBERT TILLEY, the President, being in the chair.

The PRESIDENT announced that a proposition to admit as members of the section clinical assistants who had served for one year at recognised clinics had been approved by the council, and would be presented at the general meeting.

The PRESIDENT showed: 1. A Shawl-pin which he had removed from one of the hyparterial branches of the bronchus of a woman aged 42. The pin point was directed towards the observer, and appeared only as a thread of mucus. Twice it slipped from the forceps, but was eventually drawn out with the bronchoscope. Morphia, atropine, and chloroform narcosis were employed, while the trachea and larynx were painted with 20 per cent. cocaine. 2. A T-shaped instrument with which the outer part of the tonsil is compressed and septic material expressed; the tonsil is rotated thereby so that the crypts are readily examined.

Mr. G. N. BIGGS showed: 1. An almost complete Cast of the Epithelial Lining of the Œsophagus, which was vomited three days after the patient had swallowed one ounce of chloroform. Rectal feeding was employed, and bismuth, lanoline and paroleine given every four hours by the mouth. Œsophagoscopy three months later gave no indication of contraction. 2. Specimen *from a case of lympho-sarcoma* in a child, aged 13, admitted with three weeks' history of enlarged glands in the neck and a swollen tonsil of dark maroon colour. The growth spread with appalling rapidity and became gangrenous. The child died from toxæmia 16 days after admission. The glands of the neck and mediastinum were extensively involved.

Mr. E. A. PETERS exhibited a case of *Cyst of the Aryteno-epiglottidean Fold* which burst spontaneously with a rent in the upper surface. He stated that some of these cysts disappeared rapidly on puncture, while others required removal of a considerable part of the wall. In this case the cyst appeared to be reforming.—The PRESIDENT had experienced redistension with some cysts and had found it necessary to remove a considerable part of the wall; he considered that a multilocular character explained the history in some cases.—Dr. H. W. FITZGERALD P[illegible] of the cyst by the cautery [illegible] lining.—Dr. WILLIAM HI[illegible] and alluded to the removal of a cystic mass from this region.—Mr. E. B. WAGGETT would use suspension laryngoscopy and remove part of the cyst wall.—Mr. G. W. BADGEROW had noticed the frequent disappearance of these cysts on mere puncture.

Dr. J. DONELAN showed a case with a Cyst on the Epiglottis with symptoms suggestive of œsophageal stricture. The cyst was small and associated with a scarred condition resembling healed syphilis or lupus.—Dr. FITZGERALD POWELL contended that the symptoms must be due *to a growth and not to the small cyst.*

Dr. DONELAN again brought up his case of Post-diphtheritic Adhesion of the Palate, as there was no evidence of syphilis in the case.—The PRESIDENT considered the possibility of diphtheria alone as the cause of the preceding ulceration as slight.—Mr. PETERS suggested the common association of diphthe[illegible] of the condition.—I[illegible] recall a case of such [illegible] his experience.

Mr. E. D. D. DAVIS exhibited a healthy-looking man with Tuberculous Disease of the Epiglottis and tubercle bacilli in the sputum.' It was found impossible to remove the whole of the disease with punch forceps but with Killian's suspension laryngoscopy apparatus the epiglottis was readily trimmed with forceps and scissors.—The PRESIDENT alluded to the advantage of the suspension apparatus in such manipulations, as both hands were freed by the laryngoscopy apparatus.

Mr. W. G. HOWARTH brought the Tumour removed from the patient on view at the last meeting. The extensive dissection had been effected with the aid of Kuhn's per-oral intubation apparatus, which had obviated a tracheotomy. The extraordinary history revealed the sequence of a papilloma in January, a fibroma in March, and finally a round-celled sarcoma in September, all affecting the soft palate.—Dr. DAN MCKENZIE considered the case unique.

Mr. F. F. MUECKE exhibited a patient on whom tracheotomy was performed six years ago for Tertiary Obstruction of the Larynx, and who was still carrying a tracheotomy tube. There appeared to be a mass of granulations, though the patient could breathe through the larynx.

Mr. G. SECCOMBE HETT presented a man who was able to speak after removal of one cord, and the anterior part of the other cord, two and a half years ago for malignant disease. The result had been contributed to by exercises instituted by Mr. C. MacMahon.—The PRESIDENT considered the result an excellent one.

Dr. WILLIAM HILL's case of cicatricial contraction of the lower part of the pharynx and paresis of the cords due to myopathic changes was discussed. Killian's dilation apparatus was employed. A small rubber tube was retained *in situ* and enabled the patient to swallow liquid food.

A discussion followed on the question of nasal feeding. Dr. HILL was in favour of feeding per os. It was suggested that the nasal route was unsatisfactory when the nasal passages were either irritable or diminished by vasomotor rhinitis or other obstructions.

SECTION OF OTOLOGY.

Functional and Simulated Affections of the Auditory Apparatus.

A MEETING of this section was held on April 18th, Dr. J. DUNDAS GRANT, the President, being in the chair.

Mr. T. MARK HOVELL introduced a discussion on Functional and Simulated Affections of the Auditory Apparatus. [illegible] thought a general consideration of [illegible] as knowledge of it, especially in re[illegible] less clearly defined than that of most oth[illegible] thement, seemed [illegible] tions. The term "functional deafn[illegible] life[illegible] aural manifestations [illegible] misnomer, because deafness meant [illegible]ss" was somewhat of a that of hearing. Many of the case[illegible] the loss of a function— arose in persons who wished for exem[illegible] simulated deafness service, and others among those who hoped to obtain pecuniary advantage from simulating disability due to accident or other cause. But there were also cases of apparent suppression of hearing power as the result of a violent emotional influence, and others in which deafness was simulated without any apparent object, or in which deafness was due to a temporary lack of nerve power. Among these latter must be included those who practised masturbation. In dealing with a case of suspected simulation care must be taken to avoid being prejudiced by statements emanating from people associated with the patient. Where there appeared to be no motive for loss of hearing the patient should be removed from uncongenial surroundings, and the examination should be directed to the discovery of any existing disease. In many cases of simulated deafness the onset was sudden, the voice modulations were not altered, and there was an absence of that quick movement of the eyes seen in most deaf persons, showing a desire to obtain the knowledge which they were precluded from receiving through the ordinary channel. Tests which could harm the patient should always be avoided, such as firing a pistol close to the ear. Where there was no apparent reason for the simulation, recovery was sometimes hastened by the medical attendant behaving as though he considered the case genuine. Sometimes, when making an examination and conversing with the friends in an ordinary tone, a casual request in the same tone to the patient to put out his tongue would throw him off his guard, and he would respond. Mr. Hovell concluded by describing in detail a number of tests employed.

The PRESIDENT demonstrated a case of the condition in an unmarried woman, aged 29, who suffered from cardiac trouble and was in somewhat feeble health, and who had had a syncopal seizure. For the detection of malingerers, especially those alleged to be suffering from caisson disease, he had found the use of the tuning-fork on the vertex very helpful. Some forms of function deafness seemed to be due to self-hypnosis, and such cases were sometimes considered to have been cured by some fanciful form of treatment.

Dr. W. MILLIGAN (Manchester) regarded the medico-legal aspect of these cases as very important, and many of the instances he had found it very difficult to unravel. One of the best tests he knew was that of the vestibular reactions, for these and the vertiginous symptoms were in hysteria "all up and down"; tests on separate occasions did not give the same responses.

Dr. H. MACNAUGHTON-JONES objected to the term "hysterical deafness," and said he regarded hysteria as a distinct entity, with characteristic nerve symptoms; it was apart from either neurasthenia or psychasthenia. Neurasthenia meant nerve fatigue, and in that fatigue the auditory apparatus participated. He did not think he had ever come across a case of true hysterical deafness.

Dr. DAN MCKENZIE alluded to the functional disability in old cases of organic deafness, under which the nerve centres, not being exposed to the usual stimuli, fell asleep, and this factor intensified the degree of the deafness.

The discussion was continued by Mr. HUGH E. JONES, Mr. E. B. WAGGETT, Mr. P. M. YEARSLEY, Dr. L. H. PEGLER, and Mr. G. J. JENKINS. Mr. HOVELL replied.

MEDICAL SOCIETY OF LONDON.

Exhibition of Clinical Cases and Pathological Specimens.

A MEETING of this society was held on April 14th, Sir W. WATSON CHEYNE, the President, being in the chair.

Dr. F. PARKES WEBER showed a specimen of Primary Tumour of Bone (Endothelioma?). It was obtained from a woman, aged 54 years, who was admitted into hospital on May 29th, 1912. In September, 1911, she had complained of pain in the shoulder and down her back, worse when [illegible]. In January, 1912, she took to her bed and was treated for neuritis, and remained in bed until her admission to hospital. When in bed her chief pain was in the neck, shoulders, and back. The pain in the neck seemed to cause stiffness of the jaw. Latterly she had had excruciating pain and stiffness in both legs, but the arms had never been affected. She had had a slight cough. On admission the patient was very thin, but she had a bright [illegible] There was marked kyphosis of the lower cervical and upper dorsal regions of the spinal column, from the sixth cervical to the sixth dorsal vertebræ. There was pain on pressure over the kyphotic area, but not lower down. The muscular power was feeble; she could scarcely raise her legs from the bed. The knee-jerks were absent. On Oct. 9th, while the patient was being lifted on to the bed-pan, a fracture of the left femur in the region of the trochanter occurred. In November the urine was tested repeatedly for albumose (Bence-Jones protein), but none was found. All through the illness the temperature varied between 97° and 99° F. Death took place on Nov. 23rd, 1912. At the necropsy the liver was found to be crinkled and nodular; its cut surface showed numerous small yellow nodules. The bones were very friable; the ribs could be broken like rotten twigs, and the laminæ of the vertebræ could be easily cut through with scissors. Two specimens were sent to Dr. Weber. One was half of the neck and great trochanter of the left femur, the cancellous tissue and bone marrow of which were practically altogether replaced by new growth; the other was part of the right lobe of the liver, which was diffusely infiltrated with a pale-looking new growth. No swelling of lymphatic glands was observed at the necropsy, nor were tumours noted in any of the soft parts other than the liver. In the microscopical examination of the specimens Dr. Weber was indebted to Dr. J. C. G. Ledingham for great assistance. The liver was found to be infiltrated with miliary nodules of new growth, which histologically resembled the new growth in the bone, the latter being apparently primary. The tumour substance consisted of medium-sized cells arranged in alveolar groups, with a *generally rather scanty fibrous framework* The tendency to alveolar grouping was especially noticeable in the tumour from the bone The nuclei of the tumour cells varied much in different parts of the growth Some of them were round or oval in shape, large in proportion *to the amount of cytoplasm, and more or less* vesicular in appearance Others were much smaller and irregular in shape, often eccentric in position, and staining deeply with hæmatoxylin The cytoplasm showed no particular granules No giant cells were seen Some of the cells in their general appearance and staining resembled the clear cells with small deeply stained nuclei which constitute the most characteristic histological feature *of the Gauch* [illegible] *ibed and* illustrated by I [illegible] "System of Medicine" [illegible] 766-69) In the growth in the bone a few mitotic figures were observed —Mr. E H SHAW said that in his opinion the growth was one of primary carcinoma of the liver and secondary metastasis in the bones

Dr WEBER also showed a case of Large Asymmetrical Cervical Ribs in an old man without arm symptoms The patient was aged 80 years When examining him some years ago (about 1908) Dr Weber felt a hard lump on the left side of the neck just above the left shoulder The patient was unaware of its existence, and the question arose, *Was it a tumour of recent development, or had it been there* a long time and escaped the patient's notice? A Roentgen ray examination was made in 1908 in Germany, and the following report was given "The tumour above the left shoulder is not a bony lump, nor a cervical rib, it might be a neuroma, as pressing or moving it causes a pain all along the nervus brachialis" There could scarcely be a doubt that this X ray examination was one with the fluorescent screen only and without skiagraphy On March 18th last, at Dr Weber's request, Dr N S Finzi took skiagrams of the patient's neck, and demonstrated the presence of large cervical ribs on both sides, but the right one dipped downwards more steeply than the left *This steep inclination downwards of the right one* was the reason why only the left could be palpated as a distinct hard lump at the root of the neck As the patient was fat and had a thick neck it was not surprising that an X ray examination without skiagraphy should fail to reveal the real nature of the condition Dr Finzi pointed out that the cervical ribs were jointed, the one on the left seeming to articulate with the first rib, whilst the one on the right probably articulated with the second rib The case also illustrated the well known fact that large cervical ribs often gave rise to no particular symptoms which directed attention to their presence

Dr J L BUNCH showed two cases of Hereditary Dupuytren's Contracture The patients, father and son, were members of a family the male members of which were said to have been affected with Dupuytren's contracture for the past 300 years In every case the disease was said to commence about the same age, to attain its maximum about the same age, and to affect precisely the same fingers of both hands The first symptom noticed was a curvature of the little fingers At about 25 years of age the little finger began to become flexed, and then the same contracture extended to the ring fingers The female members of the family were not affected The father was 50 years of age and showed well marked contracture of the ring and little finger of both hands The son was 26 years old and showed *an earlier stage of the same process A male grandchild was still too young to show any of these symptoms The con*tracture attained its maximum about the age of 35 and then remained stationary

Mr E H SHAW showed 1 Two specimens of Carcinoma of the Breast The first was from a middle aged woman There was an irregular radiating growth, hard and white The nipple was retracted deeply below the surface Numerous hard glands had been found in the axilla and proved to contain growth The second was from a woman about 50 years of age It was ulcerating and fungating through the skin The tumour had been noticed about 18 months Several small soft glands in the axilla occurred, but were not affected by the growth 2 A specimen of Carcinoma of the Gall-bladder, Cystic Duct, and Main Bile ducts in the substance of the Liver It was a columnar celled growth, papillomatous for the most part The liver was bil[illegible] *It was removed from a middle aged woman who ha*[illegible] deeply jaundiced and wasted 3 A specimen of Hy[illegible] nephrosis There was a very small ureter which left th[illegible] upper part of the renal pelvis and bent sharply downwards, thus producing the obstruction which led to the condition *It was removed from a boy, aged 6 years, and was probably* congenital in origin

Dr R E JEWESBURY showed a case of Acromegaly. The patient, a woman aged 36, came to London when she was 16, and at that time was said to be small for her age She began to grow very rapidly when she was 19 Her hands and feet had become much enlarged and her face had altered, but she was not certain for how long these changes *had been present For the last three years she had been* subject to pain in her back and had become round shouldered She had always felt well until her last confinement in July, 1912, since then she had complained of always feeling tired and was often drowsy, *and also suffered a good deal* from dyspnœa on exertion She was free from headache, slept well, but often snored at night Her hearing and sight were good The appetite was normal and she was not unduly thirsty Menstruation was regular One sister was said to have large hands The patient presented a typical acromegalic appearance The face was markedly enlarged and elongated, the lower jaw was lengthened and the lower teeth projected beyond the upper, also the teeth were spaced *A plate was worn in the upper jaw, but the "bite" was bad* The skin of the face was coarse and hung in folds below the eyes; the lips were thick and the lower one protruded The tongue was somewhat enlarged and fissured The hands were much enlarged, especially in breadth, the fingers were increased in length as well as breadth The feet were much enlarged, but not to the same extent as the hands There were marked scoliosis and kyphosis in the lower cervical a [illegible] was pushed forward, [illegible] exceedingly irregular [illegible] howed some hypertrop [illegible] normal and there was no diminution of visual fields The thyroid gland was very definitely and uniformly enlarged X ray examination by Dr W Ironside Bruce showed very marked enlargement of the sella turcica and absorption of the posterior clinoid processes The urine, normal in amount, contained no sugar

Dr JEWESBURY also showed a case of Pneumothorax The patient, a boy aged 5 years, was admitted to the Victoria Hospital for Children for dyspnœa Four months ago he had measles and bronchitis followed by scarlet fever. Later his mother noticed that he "seemed very short of breath," and she brought him to the hospital He had had no previous illness and the family history was good On examination the boy was healthy looking and the general [illegible]

not move with respiration Vocal fremitus was absent over the right side The percussion note was hyper resonant all over the right chest, the liver dulness was diminished, and there was resonance between the left sternal edge and the cardiac dulness On auscultation the breath sounds were much diminished and distant all over the right side Coin sound obtained Over the left lung the breath sounds were somewhat exaggerated, nothing else abnormal was detected The heart was displaced very much to the left, the apex beat was in the fifth space, 1½ inches external to the nipple line, *and the area of cardiac dulness was much diminished The heart sounds were normal The liver was pushed down.* Radiograms of the chest by Dr Stanley Melville were shown

Mr A E BARKER showed specimens of a Remnant Tumour of the Umbilicus The original tumour was about the size of a small grape, and was seated in the umbilicus of a woman, where it had been noticed for some months. It was growing harder, and the skin over it was slightly discoloured It was widely removed by Mr Barker in September, 1908, between two curved incisions opening the abdomen The peritoneum between the incisions was removed with the piece of skin containing the nodule The usual method of closure was employed and absolute primary union resulted A section showed the structure of the primary nodule In the midst of fibrous tissue were seen tubular structures divided transversely or obliquely. These were lined by subcolumnar epithelial cells like some tubular glands. In some parts the tubules were surrounded by looser submucous tissue. These structures were scattered through the nodule, always fairly defined and not infiltrating surrounding parts. The patient was not seen again until January last, when she reappeared, saying that she had for some time felt a small nodule of the size of a pea inside the left anterior iliac spine, which was occasionally slightly painful. On examination this was felt to lie in the subcutaneous fat, but to produce a little puckering of the skin when lightly pinched. It was removed shortly after by Dr. Frank Hinds, of Worthing, who was kind enough to send the specimen to Mr. Barker. A section showed the structure to be practically the same as that of the original nodule except that there was more fibrous tissue around the tubules. The relation of the secondary nodule to the primary seemed therefore to be established by the microscopic examination and the clinical history. That the original nodule was a neoplasm arising in a remnant of either the urachus or vitelline duct seemed beyond doubt. That it had recurred in the abdominal wall some 3 inches distant after free removal of the original growth of course aroused the suspicion of malignancy. Growths in or about the umbilicus derived from these fœtal remnants, though rare, were well known and had been recorded. The only other one which Mr. Barker had seen occurred about the same time. It was much larger and attached to the transverse colon which was excised with it. The patient made an excellent recovery. The tumour on section contained a white, firm mass of sebaceous material, about the size of a large grape, in dense fibrous tissue. The specimen after being exhibited on several occasions was lost at hospital, and no microscopic sections had been preserved. In the enormous surgical material of London it seemed probable that similar cases had been met with, and it was hoped that this short note of two cases might lead to their being mentioned.

Mr. L. E. C. NORBURY showed a case of Malformations of Head and Face. The patient, aged 3 months, exhibited (1) accessory auricles, (2) left macrostoma, (3) complete occlusion of the anterior fontanelle with an irregular bony formation in this region, (4) deformity of the nose, and (5) corneal opacity of the left eye. There was no history of other malformations in the family.

HUNTERIAN SOCIETY.

The Uses of Tuberculin.

A MEETING of this society was held on April 9th at St. Bartholomew's Hospital, Mr. A. H. TUBBY, the President, being in the chair.

Dr. NATHAN RAW (Liverpool) opened the resumed discussion on the Varieties of Tuberculin and their Value in Treatment.[1] He had treated 1036 patients suffering from the various forms of tuberculosis in the wards of Mill-road Infirmary and elsewhere, and his general impression was most favourable. The localised forms of tuberculosis responded more readily to tuberculin than cases of pulmonary tuberculosis with a general systemic infection, and many localised cases were completely cured by its use. He thought that all cases of pulmonary tuberculosis in the first and second stages should be treated with tuberculin in addition to ordinary sanatorium measures. He invariably treated his cases by cross-vaccination. In his experience, pulmonary tuberculosis, being most frequently an infection by human tubercle bacilli, was best treated by a tuberculin prepared from bovine bacilli; and *per contra* the localised forms of tuberculosis, being frequently due to bovine bacilli, showed better results with human tuberculin. Bovine tuberculin was less toxic and less irritating, and was not inclined to produce general reaction, so that even the most sensitive patients could tolerate injections of bovine tuberculin, where the other injections cause reactions and discomfort. As to dosage, immunity should be established very slowly and with moderate doses. His practice was to commence treatment with 1/10,000th mg. by weight of dried bacillary substance, slowly increasing the dose week by week to a maximum dose of 1/100th mg., this maximum dose being repeated as long as need be. He never exceeded it, and found the results most satisfactory. He emphasised the need of the greatest possible care and watchfulness, and held that the treatment should be employed only by a physician of experience and special knowledge of tuberculin. He considered it a remedy of the greatest value, especially in early cases and where the deposit of tubercle was localised, as in one apex or a lymph gland or single joint, but where tuberculosis was disseminated and complicated by secondary infections little good was to be expected. It ought, however, to be tried in every suitable case, as it certainly limited the spread of the disease.

Dr. HINGSTON FOX had used tuberculin for some years among private patients, in coöperation with their medical attendants. He at first gave it by the mouth, but the results were uncertain. The largest dose he had as yet given subcutaneously was one half mg. of T.R. The tuberculin inoculation test was now commonly used, but the inflamed condition set up in a latent lesion did not always subside easily. He related two cases in illustration of this test; in one of them the temperature remained above normal for three months, and a still longer period of rest in bed was needed. There were many other means of diagnosis, and he submitted that the inoculation test, on account of its risk, should be used only in exceptional and obscure cases. He hoped there would be a pronouncement on this point in the profession, else the valuable tuberculin treatment might be discredited by its association with the test. Moreover, in his experience the therapeutic doses provided a test in themselves; beginning with a minute dose, we could increase this until a perceptible reaction appeared, local, general, and focal; if this was repeated, it afforded good evidence that a tuberculous lesion was present. Dr. Fox asked the experience of others in the use of tuberculin for affections of the larger joints. He had found the treatment in a case of early hip-joint disease in an adult difficult and slow; a very small dose only was tolerated and only at long intervals.

Dr. R. A. O'BRIEN, speaking purely as a laboratory worker, had always failed to understand the differences in action of P.T. and T. in the treatment of tuberculous disease, because the two preparations were tested against the same standard and their toxicity for the tuberculous guinea-pig was the same. The outcome of a severe reaction was really to desensitise. If a lethal dose of tuberculin—e.g., 0·1 c.c.—were injected into a tuberculous guinea-pig it might die in, say, 24 hours, and post mortem the foci of disease would be in a condition of extreme congestion, but if the dose were just sublethal the animal would survive the very violent reaction and would probably live as long afterwards as other members of the same batch of tuberculous guinea-pigs. In other words, the severe reaction caused by a sublethal dose of tuberculin did not seem to induce any exacerbation of the tuberculous process or shorten the animal's life. Moreover, it would now be able to stand a dose considerably larger than the original lethal dose without fatal result. The practice of "cattle-faking" against tuberculin injections depended on this principle. There were three great problems facing the clinician. The first was—Can we immunise against tuberculosis? The answer was in the negative. There was no form of tuberculin, or of anything else, which could confer complete immunity against tuberculosis except actual infection with living bacilli of moderate or low virulence. A cow might be immunised against bovine tubercle by infection with the human bacilli. And, more than this, the production of tuberculous disease in one eye by infecting it with living bacilli caused a definite degree of immunity to a subsequent inoculation into the other eye. The second question, whether we could diagnose the existence of tuberculous disease by specific tuberculin tests alone, must also be answered in the negative. In sensitive animals, such as the guinea-pig, a reaction of tuberculin was, it was true, diagnostic of active disease, but in comparatively insensitive animals, such as the horse, goat, or man, a reaction only meant that the subject then had, or had previously had, tuberculosis. Speaking with all deference in a gathering of clinicians, he would say that in the absence of definite clinical signs, a positive tuberculin test in man meant active tuberculosis only when supported by persistent rise of rectal temperature following energetic exercise. As to whether we could prevent or foretell the existence of hypersensitiveness in a patient under treatment, this, he feared, was impossible The determination of complement-binding antibodies in the serum was no criterion, because they were found also in cases that were improving Agglutinins and precipitins certainly occurred in the serum, but we were not able to control the course of treatment by estimating them He would not refer to the much debated *question of the opsonic index further than to remark that it* was rare to find a phagocytosed bacillus in the natural course of tuberculous disease Serum containing comple [illegible] its power of [illegible] lucing a von [illegible] disease due [illegible] arrested, and [illegible] The suggestion that the phenomena of anaphylaxis were analogous to those produced by tuberculin was not, he believed, borne out by investigation. The phenomena differed widely both in their clinical manifestations and in the post-mortem picture A guinea pig sensitised by an injection of protein and killed a fortnight later by anaphylactic shock following the injection of a second dose of the protein, died within a few minutes or in one to two hours owing to such a constriction of the bronchi that air could not pass to or from the alveoli A tuberculous guinea pig injected with tuberculin did not die for at least three to four hours and did not show the characteristic distension of the lungs Moreover as Dale had recently demonstrated the uterus of a protein sensitised guinea pig when suspended in a bath of Ringer solution contracted if a very small quantity of the sensitising protein was added to the solution and was thereby desensitised to a further dose of the protein The speaker had recently tried to obtain similar reactions with the uterus, but whether the guinea pigs were sensitised with tuberculin, bacillary emulsion, or various bacillary extracts he could get no definite contraction of the uterus followed by desensitisation after the addition of old tuberculin or bacillary extracts, nor did the uterus of the tubercular guinea pig show any such response so that here again there was a wide divergence between the phenomena of protein anaphylaxis and those of the tuberculin reaction

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[1] THE LANCET, April 5th, 1913, p. 965.

Dr J K PATRICK gave his experience in a tuberculosis dispensary It agreed with Dr Raw's experience, that bovine tuberculin gave the best results in pulmonary tuberculosis and *vice versâ* He had treated lupus by tuberculin and had found the results of diagnosis by von Pirquet's reaction pretty good in this disease He had had good results of treatment in early cases of pulmonary tuberculosis

Dr A. BUTLER HARRIS discussed the treatment of tuberculous joints by tuberculin He believed that if the joint was put at rest in an early case the tuberculin treatment helped

Dr ARTHUR LATHAM, in replying feared that Dr Butler Harris's hope was not to be realised in the immediate future He agreed that dispensary treatment with intensive doses was overdone, but every method should be tried adequately so that under the sanatorium benefit sufficient data could be obtained for comparison He was surprised that Dr Raw used only doses varying in size from 0 0001 to 0 01 mg He would have supposed that an initial dose of 0 0001 mg would have caused a reaction in many of the cases described His impression was that immunity became greater and relapses less frequent as larger doses were used He was not convinced by Dr Raw that human tuberculin should be used for infections with the bovine bacillus and *vice versâ* or that tuberculin often diminished the necessary length of [illegible] gave the necessary stimulus [illegible] their own He emphasised [illegible] value in cases where auto-inoculation was frequent irregular, and uncontrollable He did not believe in using the subcutaneous test wholesale A focal reaction was the only one of clinical value, but even it held sources of error It could not be relied upon in itself, and the deductions drawn from its effects should always be considered side by side with any evidence obtainable by other means As to the value of the therapeutic test—of noting, for diagnosis, the effect of working gradually upwards from a small dose—he had treated with tuberculin certain cases, chiefly of anæmia with slight fever in young women, in which there was a strong suspicion, but no absolute proof, of tuberculosis, and had found a more rapid fall of temperature and improvement in the condition of the blood than was usually obtained by the ordinary remedies In such cases the marked improvement under [illegible] the condition was tuberculous [illegible] differences in toxicity of human [illegible] e was not convinced that they differed as much as some authorities held With the exercise of sufficient care he had found that reactions seldom followed the use of T R, even when doses as large as 5 mg were eventually injected The length of time that dilutions of T R had been made greatly influenced their toxicity and therapeutic efficiency

Mr FRANK CURRY demonstrated the preparation of the various tuberculins and their characteristics

The PRESIDENT, after thanking those who had taken part in the debate spoke of cases of tuberculous spine treated by tuberculin He now knew that the reason why this treatment was unsuccessful was that these cases were purulent and caseous from the very first

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LIVERPOOL MEDICAL INSTITUTION —A meeting of this society was held on April 10th, Mr Robert Jones, the President, being in the chair —Dr Edward Malins, of Birmingham, presented to the society a portrait of his father, Samuel Malins, who died in 1843 and who had been a lecturer in midwifery in the Liverpool School of Medicine, and one of the earliest members of the society —On the proposal of Sir James Barr, seconded by Mr T H Bickerton, the thanks of the meeting were cordially given to Dr Malins for his most interesting donation —Mr R W Murray read a note on an Operation for Undescended Testicle At least ten different methods of treating the condition were described by various authorities There was always much difficulty in keeping the organ in the scrotum Mr Murray opened the canal, exposed the testicle, hernial sac and vas deferens at the level of the external ring, the sac was transfixed and cut across but the lower part was left attached to the testicle Then all the structures attaching the testicle were cut across between two ligatures and the testicle and sac were placed in the scrotal bed The immediate result was satisfactory, the testicle lived though its blood supply was cut off, it possibly supplied an internal secretion —Mr F T Paul said he had treated these cases by suturing the tissues in the canal across the cord to prevent it from being drawn up He did not sacrifice the duct —Dr Sydney M Whitaker showed a woman who had suffered from Rheumatoid Arthritis for 15 years All treatment proved useless except a 14 day fast, during which all pain left the joints A coliform autogenous vaccine also produced slight benefit As X rays showed intestinal stasis *an ileo-colostomy was performed* with marked improvement in the joints and general condition —Dr Walter C Oram read a paper entitled, 'The X Rays as Therapeutic Agents' The theories with regard to the production of the rays in the focus tube were briefly reviewed and the difference between hard and soft rays in their physical properties pointed out The measurement of the dosage by Sabouraud's pastilles was described and methods of ascertaining the penetrating power indicated Three essentials were laid down as necessary for efficient X ray treatment of any tissue first that the rays must reach the tissue to be treated in sufficient quantity, secondly, that they must be absorbed by the tissue, and thirdly, that the tissue must be susceptible to their action It was pointed out that the denser tissues of the body—the spleen, the thyroid, and the ovary—were far more susceptible to X ray treatment than those of less density such as the muscles, the kidney, and the brain Although the variation in density between one tissue and another might seem small, it was shown experimentally that these small variations caused considerable differences in the absorptive power for the rays Tissues varied much in their susceptibility, thus X ray exposures over the ovarian regions could bring about the suspension of activity of the ovaries, while the overlying skin, which had in the interval received a considerable dose was not affected The use of radiotherapeutic applications in malignant diseases eczema, psoriasis, leukæmia, goitre and other diseases was discussed —Dr F. H Barendt thought the X rays a valuable adjunct to treatment of skin diseases In some cases of tubercular disease good results were obtained, while in others the results were not satisfactory—the knowledge of the susceptibility of the tissues was wanting In cases of hypertrichosis X rays were inadvisable, and in ringworm this treatment should be left for the rebellious cases. In patches of localised eczema with intense pruritus X rays were of signal benefit.—Mr. C. Thurstan Holland thought the methods of measurement should be more accurate. In the treatment of malignant disease the method was of use if started early after a surgical removal; it then prevented recurrence, and secondary malignant nodules often disappeared. In menorrhagia the loss could be checked without risk. Pruritus was in many cases cured very rapidly.—Dr. R. W. MacKenna also spoke of the rapid action in cases of pruritus. He did not think the expectations with regard to malignant disease had been fulfilled.—Sir James Barr had used X ray treatment in cases of leukæmia, and had had rapid and striking improvement. Unfortunately, this had not been maintained, and when symptoms again appeared the X rays had no effect and all his cases had died.—Dr. Oram replied.

Reviews and Notices of Books.

Collected Studies on Typhus. Hygienic Laboratory, Treasury Department, United States Public Health Service, Bulletin No. 86. October, 1912. Washington: Government Printing Office.

THE Hygienic Laboratory of the United States Public Health Service has issued a bulletin containing collected studies on typhus. These papers, by Assistant-Surgeons Joseph Goldberger and John F. Anderson, discuss among other questions the etiology of "Tabardillo," the typhus fever of Mexico, and the conclusions which are arrived at are for the most part based upon results obtained by the inoculation of monkeys. At least two species of monkey, the Macacus rhesus and Cebus capuchinus, were found to be susceptible to direct inoculation with the blood from human cases of tabardillo, and blood taken from the monkey Macacus rhesus, thus infected, was used for the successful inoculation of a second monkey of the same species. Moreover, one attack of the disease in the monkey, produced by blood inoculation, induced a definite immunity to a subsequent inoculation with virulent blood, and when blood serum from a human case of tabardillo was passed through a Berkefeld filter it failed to produce disease when inoculated into a monkey. Before the observations of Nicole came to their knowledge conclusions were arrived at which were based upon other grounds than those derived from the laboratory. Thus an American non-immune came daily in contact with cases of tabardillo in Mexico, and on two nights slept in a bed which for three preceding nights had been slept in by a patient in the first three days of a well-marked attack of tabardillo, the bed clothes of which were then changed. No insects but fleas were found in the room, and the American non-immune escaped infection. The fact is also cited of the attendance of non-immune nurses on 30 cases of typhus occurring during some 23 months, in which none of the nurses were infected. These observations, coupled with the fact that the flea is ubiquitous, whereas the disease is usually limited to the lowest social class, led to the inference that the flea might be excluded. Again, the fact that the bed-bug is attached to houses and that there is no evidence that the tabardillo is a house disease led to the inference that the bed-bug is not concerned in transmitting the disease. A further point noted—viz., that the flea and bed-bug are common in the lowlands of Mexico, while tabardillo is only exceptionally found there—supported these inferences.

A separate paper is devoted to a discussion of the question whether Brill's disease, which is endemic in New York city, is identical with the Mexican typhus fever. Experiments on the rhesus monkey led to conclusions in the affirmative, and further, the inference was drawn that, inasmuch as the New York disease is of European origin, the typhus fever of Europe and that of Mexico are also identical. An interesting account is given of experiments made to determine whether body lice and head lice may become infected with Brill's disease, and whether the virus contained in the bodies of these insects is transmissible by subcutaneous injection of the crushed insect or by its bite. These questions are answered in the affirmative in respect of the body louse, and in the case of the head louse also in the affirmative, except that the ability of the latter to infect by its bite is spoken of with more caution as a "belief."

Experimental studies with the virus of typhus led to interesting conclusions. Thus, it was found that the blood of the monkey which has been infected may be virulent 24 to 32 hours after the return of the temperature to normal. In respect of the localisation of the virus, the evidence obtained favoured the view that the typhus virus is extracellular and free in the circulating plasma, and that the serum of virulent typhus blood is constantly infective, whether obtained from defibrinated blood or after clotting. The conclusion was arrived at as the result of a number of experiments that there was no evidence to show that the virus passed the Berkefeld filter, and in respect of two attempts which were made to filter the virus as it exists in the body of the louse, in one the monkey inoculated with the filtrate was subsequently found to be immune. The virus was found to retain its virulence after heating at 50° C. for 40 minutes, to be deprived of its virulence by heating at 55° for 15 minutes, to be probably deprived of its virulence by heating at 60° for five minutes, and to retain its infectivity after freezing for at least days.

A paper on Studies of Immunity and Means of Transmission of Typhus led to conclusions some of which may here be briefly stated. As many as 22·5 per cent. of rhesus monkeys possess at least a transient natural immunity, and probably 3·5 per cent. possess a permanent natural immunity. A well-marked typhus reaction confers an immunity that may be present after at least two years. The guinea-pig is, and a very small proportion of rabbits may be, susceptible to infection. The immunity conferred by an attack of typhus is specific. Typhus-immune serum obtained between the fifth and the fourteenth day of convalescence has protective value when injected simultaneously with, or within 48 hours after the inoculation of the virus, but immune serum obtained on the thirtieth day of convalescence probably has no appreciable protective influence. When immune serum and virus are inoculated simultaneously no immunity results. When the immune serum is injected 48 hours after the virus, an immunity, probably active in nature, may perhaps result. The therapeutic value of immune serum is at best slight. Vaccination with heated crushed-lice suspension was attempted with a negative result. The bite of the body louse may perhaps be infective within four days after the infecting feed. Attempts to transmit typhus by means of the bites and subcutaneous injection of crushed bed bugs were unsuccessful. The buccal and pharyngeal secretions of typhus were not found to be infective, and therefore droplet infection plays no part in the transmission of the disease.

Diseases of Children. By BENJAMIN KNOX RACHFORD, Professor of Diseases of Children, Ohio-Miami University of Cincinnati. London and New York: D. Appleton and Co. 1912. Pp. 783. Price 25*s.* net.

AS a writer on medical subjects Dr. Rachford is probably little known in this country, but his book on the diagnosis and treatment of children's diseases now before us should serve as an introduction which will invite closer acquaintance. This new publication seems to strike a happy mean between the large text-book which is employed only as a work of reference and the small compendium to which the student pins his faith in anticipation of his professional examinations. In a book so practical it is curious that many really important points in connexion with the etiology and pathology of tuberculosis and syphilis should have been omitted, and that there should be no mention at all of such rare, though important, diseases as achondroplasia and cleido-cranial dysostosis. Upon the view that immunity to tuberculosis, the prerogative of the healthy adult, is not due to non-infection, but to effective and timely inoculations with the specific bacillus, Dr. Rachford's statement that, "other things being equal, the danger of contracting tuberculosis is in direct proportion to the frequency and size of the dose of the contagion," cannot be regarded as a satisfactory interpretation of the facts.

The chapters which are concerned with the general management and hygiene of infancy are practical and to the point, and the general principles formulated therein for the instruction of students are founded on a basis of which few will disapprove. As regards feeding the author says: "It follows, therefore, that the percentage method of feeding which gives to the infant the relative quantities of fat, carbohydrates, proteins and salts it needs, must ever remain the basis of scientific feeding, and that in using this method we should, to secure fairly accurate quantities, conform, within certain limits, to the calorimetric standard, and should, to prevent or correct gastro-intestinal disturbances, change the percentages of the various food ingredients to conform to the digestive capacity and food idiosyncrasies of the individual infant." Though somewhat involved in construction this statement represents, in our opinion, a very judicious summary of the ends at which scientific feeding should aim. It conveys a thinly veiled admonition to those who ridicule the principles of scientific accuracy and should tend to curb the enthusiasm of those who would push the refinements of the percentage method beyond the bounds of reason. Again, with respect to the calorimetric standard, we are reminded that however useful the formulæ may be in guiding us out of the reach of gross error, in blindly following its teaching we run a risk of starving or overfeeding infants who are subjects of idiosyncrasies of metabolism.

In another chapter a very excellent account is given of that troublesome neurosis "thigh-friction," or, as the author calls it, "*pseudo-masturbation.*" The practical advice which is offered with respect to its prevention and cure will be gratefully acknowledged by practitioners who have to deal with these intractable cases. We cannot, however, agree with the distinctions which the author draws between this the pseudo form and the true form, which occurs at a later period of childhood. The two conditions appear to us essentially the same, although accompanied by different psychological phenomena, and in spite of the fact that in the so-called pseudo form the orgasm is incomplete and the testicular secretion absent. The subject of enuresis is also dealt with in a thoroughly practical manner, and its dependence on a triad of factors—namely, the degree of stability of the centres concerned, the degree of concentration of the activating qualities of the blood, and the number and the intensity of the reflex sources of irritation—is well indicated. This philosophic conception of a very complicated condition compares very favourably with the bald etiology and crude pathogenesis which we usually find ascribed to it in text-books on the subject of children's diseases.

Although there is little that is original or new in this volume, there is very much that is new in the way old and familiar facts are presented. We regard Dr. Rachford's book as well worthy of the attention of English readers.

Studies in Cancer and Allied Subjects: Pathology. Conducted under the George Crocker Special Research Fund at Columbia University. Vol. II. New York: The Columbia University Press. 1912. Pp. 267. Price 21*s.* net.

IT appears that Vol. I., which will give a "General Report on the Present Status of Cancer Knowledge," is "in preparation." Meantime Vol. II. is before us—a quarto with stately broad margins to its well-printed matter, to which Professor W. G. MacCallum writes an introductory chapter. The anatomy, structure, and clinical history of tumour growth have been worked at by thousands of investigators, but when we come to the question of the causation little advance has been made, as pathologists and clinicians allow regretfully. Even our knowledge of the relation of the cells of a tumour to the tissue in which they begin their growth is still very uncertain. Of the current theories none is satisfactory. "To determine the etiology of tumour growths, the causes of the growth of cells in general, and the factors which underlie the increase in the energy of their growth, as well as those which limit or hold it in check, the last ten years have contributed marvelous things." The next ten years may tear aside the whole veil. Such is the forecast of the optimists.

The report contains in all 27 articles reprinted from various journals. Fourteen at least of these articles are contributed by Dr. Isaac Lewin, either in his own name or in conjunction with others. Amongst these contributions are Resistance to the Growth of Cancer in Rats by injection of Autolysed Tissue, Cancer of the Uterus, based on Clinical Statistics, Immunity to Growth of Cancer induced in Rats by Treatment with Mouse Tissue, Immunity in Cancers of the White Rat, Cancer among the American Indians, Heredity in Cancer in the White Rat, Metastases after Intra-vascular Injection of Tumour Emulsions, and the Mechanism of Metastases in Malignant Tumours, Specific Stroma Reaction, and Hormones and New Growths. Some of the contributions are very short, extending to but a page or two, and naturally there is some amount of repetition. Dr. Robert A. Lambert and his collaborators are responsible for contributions dealing with parabiosis of rats and mice, growth *in vitro* of transplantable sarcomas of rats and mice, migration of sarcoma cells growing *in vitro*, phagocytic inclusion of sarcoma cells *in vitro*, characteristics of growth of sarcoma and carcinoma cultivated *in vitro*, cultivation of tissue in plasma from allied species, and as a method for the study of cytotoxins. Dr. R. T. Frank discourses on the causes which produce growth of the mammary gland and the functions of the ovary. A great stride was made, in fact a new era was opened up, in the investigation of the question of new growth formation when Hanau, Moran in 1889, and with still more precision Jensen, and Loeb in 1901, transplanted carcinoma and sarcoma of white mice and rats into other animals of the same species. These researches showed the difference in the susceptibility of different animals to the growth of an implanted tumour.

Some interesting details are given in the paper regarding Cancer among the American Indians. It is well known now that cancer may occur not only in every human race but in nearly every species of vertebrates. Cancer of the penis is extremely frequent among the Hindus, while not a single case is met with among Mohammedans. The fact is, of course, attributed to the circumcision practised by the latter. Cancer is rare among Indians. As to Heredity in Cancer of the White Rat, the work was begun in 1910 by Dr. Lewin and his collaborators, and the results so far "seem to be extremely suggestive." It is much the same with Immunity in Cancers of the White Rat. A mouse tumour through a sojourn in the rat "takes" in a small percentage of inoculated animals, and this percentage increases in subsequent generations. Evidence is brought to show that immunity to cancer growth, but not to tumour grafting, is caused, not by differences in intracellular nutrition, but by an active inhibitory influence of the organism of the host on the cancer cells. Other studies were directed to the search for evidence of the true nature of this inhibitory influence, and when we inquire what is the result it is stated that "immunity to cancer growth is due to an active inhibitory influence of some substance present in the body fluids of the immune host and not to any purely cellular activity," and it is concluded that "it must be very similar to, though not identical with, immunity in bacterial diseases." In regard to metastases of malignant growths, the fact that carcinoma forms metastases in lymphatic glands is due, not to the difference of transportation in the carcinoma and the sarcoma, but to the specific affinity between carcinoma cells and the cells of lymphatic glands. Sarcoma cells may find easy access to glands, but may not find a favourable medium for their proliferation. As to the later studies on Heredity in Cancer the conclusions arrived at by Dr. Lewin are not to be considered in any way final; indeed, the author points out that his more recent studies show that the conclusion reached by him that hereditary disposition has no influence on cancer may have to be revised in the future. The difficulty in all these papers is to get to facts, and this paucity of facts makes it so difficult to give a connected summary of genuine reliable results. The whole is suggestive of the phrase "to be continued," but it is fair to allow that much of our knowledge in these fields is transitional.

Most interesting contributions are the accounts of growth *in vitro* of transplantable sarcomas of rats and mice by Lambert and Hanes. Harrison cultivated tissues of the frog embryo in lymph, but with the substitution of blood plasma for lymph by Carrel and Burrows in 1910 the method was simplified, and sarcomas, both human and avian, have been cultivated in this fluid, and the migration by amœboid movement of sarcoma cells has been observed, obviously a phenomenon of importance in relation to the problem of the spread of malignant growths in the body. An interesting account is given of the character of growth, proliferation, and karyokinesis of sarcoma and carcinoma cells *in vitro*. Both cells are also actively phagocytic. Nor need such cells be cultivated in plasma obtained from the same species in which the original tumour grew. Rat sarcoma can be cultivated in the plasma of an alien species such as a mouse or a guinea-pig. The same method has been used for the study of cytotoxins. In view of the well-known experiments of Claypon and Starling on breast hypertrophy in pregnancy from "breast hormones" the paper by Frank and Unger is particularly interesting. They conclude that a breast hormone "elaborated by the fetus" has not been demonstrated and must be considered purely hypothetical. In his paper on the Function of the Ovary Frank remarks that this subject seems hardly appropriate in a collection of monographs dealing with the cancer problem and proceeds to justify its inclusion.

It will be seen that the monographs record the endeavours of numerous eager observers to reach a definite goal, and consequently in the march of events many of the conclusions must be only tentative and suggestive. It is well to have the researches on such an important subject incorporated in one volume, for this will render the methods of research, as well as such conclusions as may safely be relied on, accessible to the numerous workers in the pressing problem of cancer.

LIBRARY TABLE.

Manual of Chemistry. By W. SIMON, Ph.D., M.D., and DANIEL BASE, Ph.D. Tenth edition, thoroughly revised. London: Baillière, Tindall, and Cox. 1912. Pp. 774. Price 15*s.* net.—In previous references to this work we have expressed a favourable opinion of it, and the fact that it has reached a tenth edition is proof of its appreciation by those readers for whom it was primarily written—viz., students of medicine, pharmacy, and dentistry. It presents a thorough treatment of the subject so far as the special requirements indicated go, and each successive edition has kept pace with modern developments. We are glad to notice in the present edition that the physical aspects of chemical phenomena, which are increasing in importance as regards physiological study day by day, have received conspicuous attention. There is, for example, a new chapter on electrolytic dissociation, in which are considered the origin of the theory of ionic equilibrium, ionisation of acids, bases, and salts, reactions on the ionic basis, hydrolysis, and so forth. In fact, the authors have approached the subject from beginning to end with an eye to the directions which modern teaching and interpretations are taking. The ground covered is a striking feature of the work, having regard to the space at the authors' disposal. Thus the student is introduced in the first section to chemical physics, next to principles of chemistry, then to non-metals and their combinations, then to the metals with their combinations; these are succeeded by sections on analytical chemistry, the carbon compounds or organic chemistry, and, finally, physiological chemistry, which includes a very useful chapter on proteins, digestion, milk, and urine. The illustrations, of which there are 82, are well executed, and they include one coloured spectra plate and eight coloured plates portraying 64 chemical reactions. Our favourable opinion of this book is advanced further by a consideration of the very careful and up-to-date work which has been devoted to this last edition. The authors have succeeded in providing students of medicine, dentistry, and pharmacy with a book which eminently suits their particular needs at the commencement of their studies.

Clinique Médicale de l'Hôtel-Dieu de Paris. Par le Professeur A. GILBERT, Membre de l'Académie de Médecine. Paris: J. B. Baillière et Fils. Pp. 312. Price 12 francs.—The medical world has been familiarised in the past with the careful and painstaking work performed in the wards of the Hôtel Dieu at Paris by the classical lectures of Trousseau and his pupil Dieulafoy. The present work by Professor A. Gilbert carries on the tradition of the Hôtel Dieu for accurate and clear exposition, with the help of all the modern aids to diagnosis, physical, chemical, and bacteriological. It contains the clinical lectures given during Professor Gilbert's first year of teaching, 1910–11, with the coördinated assistance of chefs de clinique, chefs de laboratoire, and various specialists, which is so noteworthy a feature of the Hôtel Dieu. The opening lecture, which occupies the first 36 pages, gives an illustrated historical account of this ancient hospital, which is said to have had its inception in the ninth century. This is followed by one on the general principles of therapeutics. These are followed by seven lectures on chronic nephritis, three on Raynaud's disease, two on glandular tuberculosis, four on acholuric icterus, and one on essential paroxysmal hæmoglobinuria, which give ample opportunities, well taken, for displaying the services of radioscopy, blood pressure readings, blood and urine examinations, bacteriological investigations by staining and culture, and so forth.

THE LANCET.

LONDON: SATURDAY, APRIL 26, 1913.

The Health of the Rising Generation.

MR. PEASE, in the House of Commons recently, on a vote to complete the sum of £14,000,000 for his department, made the annual statement of the President of the Board of Education, and that much of what he said was of the first importance to the medical profession will be gathered by our report of his statement last week. The children in the elementary schools of this country, on whose upbringing no less than £11,000,000 of the £14,000,000 in question is spent, are largely in the charge of the medical profession, so general have been the pathological defaults revealed by the inspection of school children. In one important direction the number of these children is undergoing a substantial reduction. In 1903 there were 613,000 infants between three and five years attending elementary schools, while last year the number had dropped to 332,000, a reduction of 45 per cent. in ten years. This reduction will not in the end lighten the burden to the ratepayers. It is true that inquiries show that the State education in the infants' department in the past has not been conducted in the best interest of the smaller children, while MR. PEASE'S readiness to adopt the advice of the Select Committee which, some four or five years ago, reported that, given a mother who could do her duty, home was the best place for tiny children, was applauded by the House of Commons. But the terrible question of environment prevents us from looking forward to the time as being very near when to leave the infant with the mother is necessarily the preferable course from the point of view of public health. Nursery schools on a large scale seem to form the proper way of dealing with the difficulty, and some such provision will probably be made.

A direct appeal to medical interest is now regularly offered by the Board of Education when reference occurs to the vast efforts for the removal of those physical disabilities which preclude the children from receiving proper benefit from State education. Simple and obvious as the proposition is, that the object of the education given to the child should be to turn him out from school sound physically as well as mentally—so that, on the one hand, he can take full advantage of what he has learned and apply it to the real education of the future, namely, the conduct of life, and, on the other hand, can gather from practical experience how to look after his own health in ordinary circumstances—simple and obvious as this proposition is, it is not often stated in so many words by educational authorities, and it is far from regularly acted upon in this country. It is necessary that the public should understand that the physical state of children of school age is not satisfactory, and it is from the medical profession that their information should be obtained, if only because the statements on the subject made by many energetic lay workers are too often damaged by over-strenuous advocacy. Wild talk about national degeneracy is actually harmful to the cause which it is intended to help, producing in the public the impression either that things have got beyond cure or that wilful exaggeration is being used with a view to frighten the country into paying for something fantastic or sentimental. MR. PEASE, it is well known, is himself a practical exponent of the theory that to enjoy physical training and exercise helps the young man to be a good citizen; and while, as ever, the main difficulty of obtaining for our State school children the healthy body in which to develop the healthy mind is presented by their home circumstances, we must on no account wait idly doing nothing because the housing question largely baffles solution. Much may be done for the physical good of our young by a judicious use of organised recreation during school hours. This must not be taken to condone that passionate devotion to sports which to our mind has been of recent years a source of national loss and a wasting of valuable energy. We are glad to see on all sides a revolt from this worship of athletics; but the onus upon all to assist the rising generation to grow up strong and healthy is felt very keenly by many who, none the less, resent the time spent by the population in playing games and, worse, in watching games being played.

The system of medical inspection of the State school children has now been in working order for some time, and has brought to the public attention the alarming amount of disease present, and present apparently with the tolerant acquiescence of a majority of the parents. As many as 50 per cent. of the children of school age have been found to suffer from serious decay of their teeth, while 10 per cent. display proofs of malnutrition, not all of whom owe their plight to destitution any more than to neglect or bad management. We lay no stress upon the occurrence of other preventable pathological conditions among the school children, for as yet we cannot estimate closely the measure of the evil. Within rough boundaries its extent is known to our readers and it is also known that there has been great difficulty in securing that medical treatment should follow upon medical inspection. In no place has the improvement of methods in this direction been greater than in London, where the difficulties in the organisation of medical treatment have been found to be so grave, and where they are now being faced with some success. The essential thing from the medical point of view seems to be to secure as far as possible that the regular attendance of the children should not be nullified by the fact that when their time of education is complete there is no particular opening in life for them, no continuation or trade schools established which would help them to make some use of the education which they have received. We have no doubt whatever that the establishment of such schools, with the provision that this would imply of regular and skilled labour, would work incalculably to the improvement of the public health of the next generation. The general feeling is becoming manifest in this direction. Last week the PRIME MINISTER received favourably a deputation, introduced by Prince ALEXANDER of TECK, composed of members of the council of the British Boys' Training Corps, an institution which proposes to provide systematic military and industrial training for boys after leaving school. Undoubtedly this institution, which is well worth pecuniary support, has for its main object the preparation of an intelligent and skilled class for the army. But what can be done for potential recruits, or for those whose manners have already earned them a visit to an industrial school, ought to be done in some large measure for the general school population.

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The Royal Medical Benevolent Fund.

WE have called the attention of our readers on several occasions already to the public dinner of those interested in the work of the Royal Medical Benevolent Fund and its associated Guild, which will take place on Wednesday next, April 30th, at the Hotel Cecil, London, under the presidency of H.R.H. Prince ARTHUR of CONNAUGHT. We hope sincerely that the result of the dinner will be the raising of a substantial sum of money for most deserving objects. No one can read the brief summaries that we publish from time to time of the cases which the committee of the Fund is able to relieve without recognising that here is an organisation worthy of all support, ministering in the most direct way to the needs of necessitous members of the medical profession, or to the widows and children of those of our colleagues whom death has overtaken ere they had made provision for their dependents. The Royal Medical Benevolent Fund is now in the seventy-seventh year of its working, and has granted over £160,000 to its numerous beneficiaries. At first it was a small and struggling organisation, but now its annual distributions in money amount to thousands—in 1912 nearly £6000 were granted in donations and annuities—while its auxiliary branch, the Ladies' Guild, is coming to the aid of numerous families where the provision of clothing, and the assistance of payment in school fees may make all the difference in the fight with poverty, between complete surrender and successful struggle We have no hesitation, therefore, in bringing the objects of the Fund before our readers in a prominent way, at a time when pecuniary support will be particularly acceptable to those responsible for the organisation of the Fund. The Fund is deserving of all the help that members of the medical profession can afford to give it. It has been throughout splendidly and economically administered, and is doing a great work. It is sincerely to be hoped that the opportunity of the coming banquet will be taken by many laymen to contribute to the Fund. The public supports only in the barest way the charities of the medical profession, and yet no section of the population has a more close and direct claim upon its generosity. The medical life is a hard one, the number of those who follow it who are in a position to make large donations in aid of their less fortunate brethren is very small, and the failure of many medical men to leave at their death adequate support for their wives and children is but rarely due to improvidence. The medical man marries young—in general practice this is an almost invariable rule. His chances of securing a good return in money for his efforts are jeopardised by an extraordinary number of fortuitous circumstances against which no precautions are of much avail, and these precautions are absolutely ruined by bad health. A general practitioner is often some way advanced into middle life before he can set aside from his earnings any regular sums for investment, or pay any substantial premiums to a life insurance company. To say that in these circumstances those dependent upon him would not be able, in the case of his untimely death, to retain the social and educational advantages which they had enjoyed during his life is entirely to understate the case. If no greater hardships than such were in question our plea for the support of the Royal Medical Benevolent Fund, though it would none the less be due, would be of a much less urgent nature. What we want to bring home to our readers, and through them to the public, is that in many cases a medical man through no fault of his own, and his dependents certainly through no fault of theirs, fall into absolute penury, in which plight nothing may stand between them and hopeless misery but such grants as the *Royal Medical Benevolent Fund* can make or that private benevolence may supply.

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Lind-af-Hageby v. Astor and Others.

THE lately concluded action for libel brought by Miss LIND-AF-HAGEBY will be identified by posterity when it consults the law reports with the name of Mr. ASTOR, the proprietor of the *Pall Mall Gazette*, in which paper appeared the outspoken and candid article by Dr. C. W. SALEEBY that gave rise to the recent unsuccessful claim for damages. The main issue, however, lay between the plaintiff and the author, and the actions launched against the proprietor, the editor, and the printer had to stand or fall according to whether Dr. SALEEBY succeeded in maintaining the position taken up by him in criticising the "antivivisection shop" in Piccadilly in the course of a review of a work by Mr. STEPHEN PAGET, the honorary secretary of the Research Defence Society. Dr. SALEEBY is, therefore, the person first to be congratulated upon the conclusion of the protracted trial brought at last to an end by a verdict for the defendants, although the expression of our satisfaction at his success must be taken to include Mr. ASTOR, Mr. GARVIN, and the printer of the *Pall Mall Gazette*.

The result was no doubt anticipated by all not blinded by prejudice who followed the evidence in the daily newspapers. The case was very fully reported, and naturally so, for the long-standing quarrel between the antivivisectionists and the exponents of scientific medicine is a matter of the first public interest. The daily reports have therefore rendered it unnecessary for us to explain at any length the questions raised upon the pleadings before Mr. Justice BUCKNILL, to describe the matter out of which they arose, or to recapitulate the incidents and features of a trial the wearisome length of which seems to require explanation

The prolixity was perhaps not altogether avoidable when the circumstances in which the case originated are considered and the nature of the observations into which Miss LIND-AF-HAGEBY read a personal libel upon herself. The enormous expense, however, of protracted litigation renders the importing into it of irrelevant matter a source of hardship to the party not responsible for its introduction, and the fact that LIND-AF-HAGEBY *v.* ASTOR became something like another Royal Commission upon experiments on animals must be held to be largely due to the consideration extended in our courts to litigants appearing in person, and such litigants do not suffer if they are women. Miss LIND-AF-HAGEBY certainly cannot complain that she did not have what sportsmen would call "a run for her money." She was occasionally stopped, it is true, but was able to inform the court, among other matters, of often-quoted opinions attributed to ROBERT BROWNING and TENNYSON, to RUSKIN, to the late Lord COLERIDGE, and to the late Lord BRAMPTON, the importance of which must fall to the ground when we find persons of equal intellectual fame and strength of character holding opposite views. We select this particular irrelevancy for special reference because we regard it as typical of sentimental reasoning. It is on a par with the cross-examination of Sir VICTOR HORSLEY, who was asked whether he was recently at variance with the majority of the medical profession. The suggestion intended to be conveyed was that because Sir VICTOR HORSLEY differed from some of his colleagues upon questions relating to medical politics, they would not endorse his opinions as to the utility of experiments on animals, or honour him as a great surgeon eminently qualified to assist any tribunal with his evidence on such a topic.

Even, however, with the aid of irrelevancy the trial just over does not appear to have advanced the cause of those who denounce all experiments upon animals. Neither the allegations put forward as facts, nor the opinions of medical witnesses appearing as experts for the plaintiff, contained anything that we have not heard before, or, for the most part, that cannot be found in the evidence which was not followed by the late Royal Commission in its report. The jury were told, as they may be told again, that HARVEY not only owed nothing to experiments conducted upon animals, but that he contributed nothing to science, being merely the man who embodied and put in order the discovery of others who made no experiments; that PASTEUR advanced science only "from his point of view" and by his treatment of rabies succeeded merely in increasing the number of cases of that fell disease; that no discovery of any value attributable to experiments upon animals was ever made by KOCH, whether with regard to tuberculosis, to pneumonia, or to tetanus; that Sir VICTOR HORSLEY has achieved nothing by experiments upon animals because the operations for which he claims utility are useless; that the action of such drugs as veronal, sulphonal, digitalis, antipyrin, and cocaine is in no way better understood from any investigation of their characteristics for which animals have been employed; that serum inoculation for plague in India has not only failed to lessen the ravages of the disease, but has actually increased them; and that experiments upon animals are not necessary to advance our knowledge of bacteriology. The reiteration of assertions like these, even when they are made under the sanction of an oath in the witness-box, does not perhaps do much harm. Such statements can be contradicted promptly by witnesses standing upon equal ground before the law. And when an issue is being fought in a court of justice, reasoning laymen are apt to inquire who are those who thrust forward strange doctrines. They weigh their names and fames in the balance against those of the men who so clearly and confidently declare them to be wrong. When this occurs it may be said with satisfaction that on the whole the progress of error is arrested, apart from the weight carried by a jury's verdict.

Of course, we do not suggest that everyone is convinced by the evidence of physiologists and surgeons whose names are household words in their professions. There will be many who will point to the medical evidence called by Miss LIND-AF-HAGEBY and to that of the various laymen whose social and other distinctions matter nothing when we consider to what their testimony was directed. There are also, we must always remember, persons from time to time found clinging to the time-honoured belief that the world is flat. No one is likely to convince a large proportion of Miss LIND-AF-HAGEBY's sympathisers and admirers that every word of her statements and suggestions is not true. They will continue to aver, as she with the support of others has averred, that experiments are conducted upon animals that are only nominally anæsthetised, and that "vivisectionists" perpetrate unnecessary acts of cruelty because—if any charity is to be accorded to them—their eagerness for their imaginary discoveries renders them oblivious of, and indifferent to, animal suffering. Fortunately, this kind of abuse defeats itself. The occasion of the trial has enabled those who are engaged upon scientific research to justify their position and to vindicate their good name; this has been observed with satisfaction by the public, who have had an opportunity to read in their daily newspapers the plain and forcible evidence given for the defence by Professor W. M. BAYLISS, Professor A. D. WALLER, Sir VICTOR HORSLEY, Dr. C. J. MARTIN, Dr. E. W. GOODALL, Dr. F. F. CAIGER, Dr. J. MACKENZIE, Dr. ALICE CORTHORN, Professor A. R. CUSHNY, Dr. W. H. EYRE, and Dr. W. BULLOCH. We give the general public credit for being able to judge whether this evidence was honestly and straightforwardly given, and whether it was in any way shaken by a plaintiff who had fully the usual opportunities for cross-examination, was mistress of her own side of the case, and who showed herself throughout the trial an able and dexterous advocate of her cause.

CIRENCESTER (GLOUCESTERSHIRE) HOSPITAL.—The Cirencester Hospital was formally re-opened on April 17th by Lady Bathurst. The old building has been brought up to modern requirements and a new wing has been added, which will increase the number of beds from 13 to 17. The cost of the undertaking was defrayed by the generosity of the late Mr. D. G. Bingham, who gave £2500 for the purpose. Mrs. Wilfred Cripps has subscribed £500 towards the endowment fund of the charity.

Annotations.

"Ne quid nimis."

YELLOW FEVER COMMISSION (WEST AFRICA), 1913.

THE Secretary of State for the Colonies has appointed Sir James Kingston Fowler (chairman), Major Sir Ronald Ross, Colonel Sir William Leishman, and Professor W. J. R. Simpson to be a Commission to study the nature and the relative frequency of the fevers occurring amongst the Europeans, natives, and others in West Africa, especially with regard to yellow fever and its minor manifestations. Mr. A. Fiddian, of the Colonial Office, has been appointed secretary of the Commission, and Mr. T. F. G. Mayer, West African Medical Staff, assistant secretary. In the absence of special reasons the Commission will not themselves proceed to West Africa, but local investigators will work under their direction at certain centres. As at present arranged those centres will be Freetown in Sierra Leone and Sekondi and Accra on the Gold Coast. The investigators at Freetown will be Major J. C. B. Statham, R.A.M.C., sanitary officer of the Command, and Dr. G. G. B. Butler, of the West African Medical Staff. Those at Sekondi will be Dr. H. S. Coghill, assistant at the Medical Research Institute, Lagos, and Mr. H. M. Hänschell, senior demonstrator at the London School of Tropical Medicine. Those at Accra will be Dr. G. E. H. Le Fanu, of the West African Medical Staff, and another. The investigation will be set on foot towards the end of April or early in May. Endeavours have been made to enlist the coöperation of all medical men practising in the British dependencies in West Africa, whether as Government medical officers or otherwise. The funds for this investigation will be provided by the West African Dependencies.

SPURIOUS FOAM.

WE called attention some time back to the fact that many beverages were made attractive by the addition of certain preparations producing a foam upon the surface of the fluid. The most frequently used substance for this purpose, we pointed out, was a preparation known as soap bark—quillaia saponaria—its property of producing a froth being due to the presence of the glucoside saponin. We entered two objections to the use of this substance in beverages. First, it is added to give to a fluid which is in reality flat, stale, and unprofitable, the appearance of healthy briskness. That is a deception which may succeed with uncritical palates in passing off an unworthy beer as sound. Secondly, although the quantity of saponin necessary for the purpose is small, yet it is equally without doubt a poisonous glucoside, and on general principles it is desirable to keep poisons out of liquids destined for human consumption. That saponin is not altogether an inert body is evident from the fact that its lather has been used to kill pediculi of the scalp, and further, though it appears to have been used as an expectorant in bronchitis, it is contra-indicated in inflammation of the intestines or stomach and in ulcerated conditions of the mucous membrane, while large quantities paralyse the respiratory vaso-motor centres. Our references to these facts in relation to the use of saponin in common beverages, such as mineral waters and beer, were generally discredited on the score that the quantity sufficient for giving a "head" was infinitesimal. In days, however, when the origin of many symptoms is obscure, it is well to have an eye to the possibilities of causation in the manifold resources of modern methods of manufacture. It is significant, at all events, that the use of saponin was some years ago prohibited in Austria, but a more recent step in the same direction, for doubtless very good reasons, has been taken by the Department of Health of the City of New York. In a bulletin issued for the week ending March 22nd last the use of soap bark in soda-water is prohibited. A preparation of soap bark (saponin), according to the bulletin, is used quite commonly in the country in the preparation of soda-water, in some kinds of "soft" drinks, and in fillings used by bakers. Soap bark contains, it is further stated, a poisonous substance, and the Health Department considers the use of a soap bark extract or of commercial saponin in foods or food preparations in any quantity whatever an injurious adulteration, and forthwith prohibits its use. We objected primarily to the false appearance of healthy effervescence which the addition of saponin gives to beverages because such an appearance implies a wholesome aerated condition of the fluid due to disengagement of carbonic acid gas. Next we raised an objection on account of the well-known irritant properties of saponin, though we were well aware that the quantity sufficing for the purpose was small. As will be seen, a complete endorsement of the views we expressed seven years ago occurs in the opening sentences contained in the weekly bulletin of the Department of Health referred to. They are as follows: "The average person who drinks soda-water, sarsaparilla, cream soda, root beer, and other so-called 'soft' drinks, probably imagines, if he gives any thought to the matter, that the creamy deep foam which tops his glass results naturally from the liberation of the carbonic acid gas therein contained. Such, unfortunately, is frequently not the case, the foam, especially when deep, white, and creamy, being sometimes produced artificially by the addition of a substance known as soap bark, various preparations of which are upon the market. 'Soap bark' is poisonous and markedly so, its toxic principle being sapotoxin. On this account the Department of Health has determined to prohibit its use, and henceforth if the cheaper grades of soda water, &c., do not present so attractive an appearance as heretofore, they will, at least, exercise no detrimental effect upon the community."

THE ARREST OF HÆMORRHAGE BY THE APPLICATION OF HORSE SERUM.

IN recent years horse serum has been injected hypodermically in the treatment of hæmorrhage due to diminished coagulability of the blood, such as occurs in hæmophilia, purpura, melæna neonatorum, and in operations in cases of long-continued icterus. A method which has been employed much less frequently is the local application of horse serum as a styptic. In the *Journal of the American Medical Association* of March 8th Dr. C. G. Levison has reported the two following cases. A man, aged 49 years, gave the history that he had suffered for several years from intermittent epistaxis which was cured only by removal of the turbinal bones. There was a moderate degree of arteriosclerosis. He had been suffering for some time from irritability of the bladder. Cystoscopic examination revealed a cyst at the internal orifice of the urethra, which was cauterised. At the time of the operation there was no hæmorrhage, but on the following night the bladder became distended with clots, which were evacuated with difficulty. Bleeding persisted for a week and then became profuse. When Dr. Levison saw the patient he was very exsanguine, and the bladder reached to the umbilicus and was firm from the presence of clots. Cystotomy was performed, and the clots were removed. The cystic tumour had been burned away, and a small bleeding area had been left. This was cauterised with the actual cautery, and the bladder was packed with iodoform gauze But the hæmorrhage never ceased for seven days, despite the application of various astringents—namely, tincture of iron, alum, epinephrin, and antipyrin, and the injection of horse serum The abdominal wound bled as persistently as the area in the bladder There was continuous oozing of bright red blood, and the patient's condition was growing exceedingly grave A flask of horse serum was poured into the bladder Almost at once the hæmorrhage ceased, and it did not recur *In the second case* the patient was a woman, aged 45 years, who had suffered for three months from persistent but not intense jaundice She had an enlarged gall bladder The coagulation time of the blood was eight minutes *Carcinoma involving the* biliary passages was diagnosed The gall bladder was exposed, and about 8 ounces of dark green bile, of the consistence of tar, were removed Cholecystenterostomy was about to be performed when the gall bladder began to bleed Nothing had been done to cause this except the introduction of a dull spoon, as the finger could not reach to the bottom of the gall bladder Bleeding became excessive, and was not controlled even when five yards of iodoform gauze had been packed into the gall bladder The hæmorrhage became alarming 20 c c of horse serum were injected hypodermically without result Then a flask of horse serum was poured into the gall bladder Coagulation immediately occurred and the hæmorrhage ceased The gall bladder was re packed and the bleeding did not recur.

MEDICAL EDUCATION IN CARDIFF.

THE medical school at Cardiff—the only medical school in Wales—is now within sight of completion, and the question of clinical instruction to the students is therefore one of immediate interest The obvious and natural place in which this should be given is King Edward VII 's Hospital, the modern institution of over 200 beds which has lately arisen out of what was the Cardiff Infirmary, and arrangements have accordingly been made with this end in view The *personnel* of the visiting staff of this hospital thus becomes a matter of the highest importance since the future of the Cardiff Medical School will largely depend on the quality of the clinical teaching to be obtained in the wards and out patient rooms of King Edward VII 's Hospital As it happens, owing to the death of Dr Arthur E Taylor, and the resignation, through the age limit, of Dr Herbert R Vachell, both physicians to the hospital, two vacancies are now impending on the honorary staff The board of management, we understand, are alive to the responsibility which thus falls upon them in filling these vacant posts, and they have expressed their intention of recruiting from among men of the highest qualifications, with a zealous regard to fitness irrespective of all other claims put forward by candidates or their supporters It follows from this that the most appropriate candidates would be those who practise as consulting physicians, and who, if possible, have already had experience of teaching We should be the last to suggest that a leading general practitioner is not often able to give clinical instruction as sound and useful to the student as it would be possible to give The point is that time and proven ability to teach should be essential qualifications for appointments in hospitals attached to medical schools It is the medical school which necessitates a specialist staff The election committee at King Edward VII 's Hospital, Cardiff, is commendably small, and its choice is final If its claim to independence and impartiality is just there should be little difficulty in making suitable appointments From now onwards those who are elected to the honorary staff of this institution will have in their charge the efficiency and good name, not only of the hospital, but also of the Cardiff Medical School.

A CRUSADE AGAINST VENEREAL INFECTION IN AUSTRALIA

INCREASING knowledge carries with it increasing responsibility Reticence in regard to the venereal diseases was acquiesced in, if not fostered by, the medical profession when the wide extent of the effects of these diseases was less known and the large proportion of innocent sufferers was unsuspected But the day has gone by when these diseases can be regarded as necessarily evidence of personal immorality, and reticence must with increasing knowledge be replaced by a judicious widespread publicity in order that adequate measures may be prepared It is very interesting in this connexion to read that steps have been taken in Australia in accordance with the wider modern views In *Bedrock* for April Dr James W. Barrett, C M G , describes how, in Victoria a general discussion between pathologists, oculists, and specialists in children's diseases on the one hand, and many members of the general medical profession on the other, as to the extent of distribution of venereal diseases, led to the passing of a resolution at the Australasian Medical Congress in Melbourne in 1908, affirming the wide extent of the infection and urging on the Government the taking of preventive and remedial measures The evidence on which this resolution was based consisted among other things of two sets of 100 necropsies, each made indiscriminately at the Melbourne Hospital on the bodies of persons who had died from varied causes In each set of necropsies 30 per cent showed pathologically syphilitic affections in the arteries and organs Ophthalmologists added their testimony as to the frequent association of certain appearances with a history and other signs of syphilis, and *in this they were supported by analogous* conclusions on the part of those who had worked largely in connexion with diseases of children The resolution of the Congress having been brought before the Victorian Government, the latter, on the advice of their medical officer, Dr Burnett Ham, established an advisory committee of medical practitioners to investigate the subject Investigation was pursued along the following lines For 12 months syphilis was made compulsorily notifiable as to age, sex, and clinical conditions , a specimen of blood for the Wassermann test was submitted in all cases of residence within 12 miles of the Melbourne Post Office, no names, however, being mentioned *Not only obvious cases of syphilis*, but conditions supposed to be indirectly due thereto were reported. By the end of the year out of 5000 cases reported and tested for syphilis 3167 (or 0 5 per cent of the entire population) proved to be syphilitic Again, during four months, at the Victorian Eye and Ear Hospital, every new case of disease of eye, ear, or throat, 550 cases in all, was submitted to the Wassermann test, with the result that of the eye cases 13 per cent , and of the ear and throat cases 15 8 per cent , were found to be syphilitic At the Children's Hospital examination of all who showed signs of syphilis confirmed the position The results of the inquiry, therefore, proved that the distribution of the disease was very wide, that the evidences on which diagnosis was based were valid, and that the resulting damage to the race was enormous. The Women's Hospital added further testimony to the effect that half their operative work was occasioned by gonorrhœa. A summary of the evidence was reported by Dr Ham to the Government, which authorised publication in the press and appointed a permanent advisory committee to deal with the situation The first difficulty in public education was seen to be the moral objection based on the mistaken premise that sufferers from venereal disease are rightly served. Therefore it was shown that while the crafty and cold-blooded offenders were often able to avoid the consequences of their acts, it was the impulsive and simple-minded who more generally suffered; and, moreover, half the sufferers from gonorrhœa, and more than half of those from syphilis, were found to be not in any way morally responsible for their plight. The aid was sought of the National Council of Women, which passed a resolution offering coöperation with the Government in any reasonable steps. The press was also appealed to and consented to publish official and unexpurgated accounts of the steps taken, and to speak out plainly, avoiding euphemisms. The clergy also allowed the medical profession to give a temperate statement of the facts in their churches. The Government now furnished and equipped wards in the Alfred Hospital and the Women's Hospital for the treatment of any persons (other than prostitutes, who were otherwise provided for) suffering from these diseases in any of their contagious forms. They also arranged with the University of Melbourne for a free application of the Wassermann test to 2000 hospital cases annually, and at a low rate for all other cases. Finally, it is proposed to introduce a modified form of a New South Wales statute, which provides that any person sentenced to imprisonment for any cause and found to be suffering from a venereal disease in a contagious form may be detained until he can be released with safety to others. With these operations at work there is reason to hope that the elimination of venereal diseases is within the region of possibility. Dr. Barrett, as a result of his observations during a recent visit to Europe, considers syphilis far more common in Europe than in Australia, and while admitting that, in consequence probably of better treatment and hygiene, the graver manifestations are less common than formerly, holds that "submerged syphilis" is just as frequent and as deadly, since syphilitic nervous disease is not decreasing. He makes the suggestion that the examination by the Wassermann test of every patient admitted to the Brompton Hospital during a sufficient period would probably settle the relation of syphilis to tuberculous infection. Professor E. H. Starling, in a prefatory note to Dr. Barrett's article, urges that since in this country the State has now fully assumed responsibility for the national health, it is right that the public should be made acquainted with the measures taken in another part of our Empire, and asks if there is any reason why similar measures should not be adopted in this country.

THE COMMON HAIRBRUSH.

THE tendency of modern times is to make civilised people much more fastidious than were their ancestors. At one time at a meal the meat was served in a dish from which each diner took with his fingers what he required, and cut it on his own plate with his knife; at an early period the knife used was that which served for many other purposes, and it was never what is now called clean. The practice of feeding from a common dish obtains to-day among the Arabs, most courteous of hosts, if not so exuberant in their attentions as the dinner givers in some savage countries, where it is considered a polite attention for the entertainer to take a toothsome morsel from his own lips and to place it in the mouth of his guest. Customs such as these must have tended to spread disease. We have changed our manners in many respects, but there are still many habits of life in which greater care might be exercised. The risk of infection is materially diminished by taking a reasonable amount of care, and this is true not only of the more serious diseases, such as the infectious fevers, but also of the slighter affections such as ringworm. It is curious that even at the present day very little care is taken to prevent infection of the scalp. Until recently even hairdressers employed the same brush to all customers without making any attempt to disinfect it or even to cleanse it. Now it is true that many hairdressers do attempt to sterilise the brushes and other implements which they employ, but it is still customary with many persons to employ almost any hairbrush which may be available. In the dressing-rooms of clubs common hairbrushes are provided, and few hesitate to employ them. Now it is generally agreed that seborrhœa of the scalp is microbic in origin, and though the resisting power of the individual is an important factor in the production of the disease, infection also plays an active part. So that it cannot be doubted that the use of a hairbrush employed by others carries risk. It is not improbable that the increase of baldness in civilised communities is associated with the greater risks of infection of the scalp which exist.

TRAUMATIC APPENDICITIS.

CASES of appendicitis attributed to injury are rare; about 100 have been recorded. The condition has been discussed by many writers who have given varying estimates of its frequency, ranging from 0·8 to 8 per cent. This difference is not surprising as relations of cause and effect are difficult to establish in medicine. The problem is often highly complex, and even industrious writers are often wanting in the logical aptitude or training necessary for an accurate conception of the word "cause." Some writers accept only cases in which appendicitis appears after direct and violent injury to the abdomen; others include such factors as a hard day's work, horn-blowing, or defæcation. Only one writer, Sprengel, denies the existence of traumatic appendicitis, and holds that the combination with trauma is a mere coincidence. Others hold that trauma merely causes an exacerbation of a latent inflammation. Still others believe that trauma alone may cause appendicitis. All except Sprengel agree that injury may cause appendicitis in persons who previously showed no signs of the disease. In the *Progrès Médical* of Jan. 11th M. G. Daniel has reported the following case. A woman, aged 18 years, was admitted into hospital on August 20th, 1912. On July 11th she was kicked in the right iliac fossa by her husband. She was knocked down, but was able to get up without assistance. For ten minutes she felt severe pain over the whole abdomen. Then the pain gradually disappeared. She did not take to bed, and on the following day made several journeys, and on the day after that resumed work. Previously to the injury she was in good health and had not suffered from any digestive trouble. On the evening of July 18th, having felt nothing abnormal in the interval, she suffered from acute abdominal pain which became worse during the night and compelled her to remain in bed on the following day. The pains were then principally felt in the right iliac fossa. There were obstinate constipation and frequent vomiting. The temperature was 102·2° F. The symptoms increased, and on the 26th the temperature was 104·5°. It remained at this level until August 6th, when the symptoms began to regress, and on the 14th the temperature was normal. However, two days later the same symptoms began again and she was taken to hospital on the 20th. On admission the temperature was 103·5°, the pulse was 120, the facies was altered, and the respiration was rapid. The whole abdomen was painful, but the right iliac fossa was the most tender. On palpation there was marked "muscular defence," which, however, did not prevent a large induration from being felt. Vaginal examination was negative. Traumatic appendicitis was diagnosed. Under medical treatment the temperature fell to normal and the symptoms improved On Sept 2nd an "interval operation" was performed On the anterior surface of the cæcum was a subserous ecchymosis In consequence of adhesions the appendix was discovered with difficulty It was rolled up in spiral fashion and surrounded by peritoneal bands, especially at its extremity, which was adherent to the ileum It was dissected out and amputated with the thermo cautery Recovery was uninterrupted On opening the appendix neither foreign body nor calculus was found, only slight hæmorrhagic blotching was observed At the free extremity the lesions were greatest; there was some pus, the wall was thinned, and the mucous membrane was violaceous M Daniel claims this case as clearly one of traumatic appendicitis in which there were no preceding lesions of the appendix But, he asks, What is to be understood by traumatic appendicitis? He accepts the conclusions of Guinard which are as follows 1 Cases of direct injury of the appendix, comparable to contusion of a segment of intestine, must be excluded from the category of traumatic appendicitis Here the effect is not appendicitis but traumatic perforation, producing peritonitis 2 Cases of appendicitis following an injury in a patient who has had previous attacks or even in one who is predisposed to infection in consequence—for example, of the presence in the appendix of a foreign body or a calculus—must also be excluded 3 Only those cases in which the appendix was sound at the time of the injury and in which direct contusion can be eliminated should be termed traumatic appendicitis Guinard considers that the injury causes the formation of little adhesions around the appendix which kink it, as in the case related above, and thus place it in danger of infection. In some cases the mechanism of a hæmatoma may be invoked, as has been done by Sonneburg Contusion of the appendix may be differentiated from traumatic appendicitis by the fact that in the former the symptoms immediately follow the injury, while in the latter there is an interval

THE TOXICITY OF THE SALICYLATES

IN the *Journal of the American Medical Association* of March 29th Dr Paul J Hanzlik reports the results of an investigation into the toxicity of the salicylates based on an examination of the clinical records of about 400 cases treated at the Lakeside Hospital, Cleveland The method of administration employed in this institution has been such as to facilitate this inquiry, the drug is given in hourly doses until symptoms of intoxication (headache, nausea, vomiting, deafness, tinnitus, &c) make their appearance The total amount given prior to these manifestations constitutes the toxic dose Averages were calculated, not by the usual means, but by arranging the doses given to a group of cases in ascending order, and taking the middle dose of the series as the mean toxic dose for that group of cases In 333 cases the drug was given in the form of the synthetic sodium salt, in 9 cases the natural sodium salt was given, in 9 methyl salicylate, in 7 aspirin (acetylsalicylic acid) and in 6 diplosal (salicylo-salicylic acid) In the case of the synthetic sodium salt the mean toxic dose for adult males was 180 grains, for females 140 grains, of the natural salt, 200 and 135 grains respectively, of the methyl salt, 120 minims alike for male and female, of aspirin, 165 and 120 grains respectively, of diplosal, 100 and 83 grains respectively The difference between the toxic dose for males and for females corresponds approximately with the average difference in body weight The toxic dose of the synthetic salicylate of soda ranged in males from 60 grains (in 16 cases) to 1300 grains (in 1 case, given as a single dose), in females from 20 to 300 grains For most individuals it lay between 100 and 200 grains No relation could be found between age and tolerance for salicylates between the ages of 16 and 75, neither was any racial susceptibility traceable. One very interesting point is brought out by an examination of the relation between the size of the toxic dose and the malady for which the drug was given, it appears from Dr Hanzlik's table that there was no greater tolerance for the synthetic salicylate in cases of rheumatic fever and subacute rheumatism than in other affections, and this seemed to be true of the other salicylates Further, the responsiveness of the case to salicylate treatment had no effect in modifying the magnitude of the toxic dose The figures tabulated bear out general experience in one important respect it was in rheumatic fever that therapeutic success most often followed administration of the toxic dose of salicylate The conclusion in respect to the influence of salicylates in albuminuria, though only provisional, is of interest, it is to the effect that albuminuria in rheumatic fever is to be ascribed to the disease and not to the action of the drug Finally, idiosyncrasy to salicylates is shown not to depend on age, sex, race, or nature of disease, indeed, in a majority of those persons who appeared to exhibit an idiosyncrasy to the drug the toxic dose varied from time to time In one respect this otherwise exhaustive investigation is disappointingly incomplete Dr Hanzlik states that in most cases the salicylate was combined with bicarbonate of soda, but he does not say whether this device had any effect in increasing tolerance to the drug To British investigators this point is one of some importance, and it is to be hoped that Dr. Hanzlik will some day complete his valuable researches by deliberation upon this point also

SMOKING IN THE THEATRE

THE suggestion to permit smoking in the theatre as an inducement to increase the number of its patrons obviously raises some points of hygienic importance It is easy enough, of course, to prove that if the suggestion were carried through the playgoing public would be submitted whether they liked it or not, to an atmosphere of burning pipe, cigar, or cigarette which cannot add to the healthiness of the surroundings Courteous smokers will respect the reasons which induce many people to refrain from the indulgence—and in not a few cases there may be decided medical reasons included—while it is certain that it does no harm to anybody to give up smoking at any time Scientific evidence is hardly needed to show that to some extent the person breathing a smoke tainted atmosphere is liable to the same evils as the person who is smoking, for the experience of a non smoker who has spent an evening in the atmosphere of a smoking concert is often that he sustains a disturbance of health similar to that sometimes complained of by the excessive smoker It is doubtful whether such discomforts arise from nicotine, they are more likely due to imperfect products of combustion, amongst which must be reckoned irritating empyreumatics and the decidedly poisonous gas carbon monoxide It is certain that if the air of a theatre in which a large company of people were smoking were examined it would show a result very far from a standard of purity The only concession that might be made would be to reserve certain parts of the theatre for smokers and to provide a special system of ventilation in those parts which would effectually prevent the smoke from annoying those who do not choose to smoke If this is impracticable, then the prohibition of smoking in theatres seems to us to be reasonable. It will, of course, be urged that smoking is permitted in the theatre of varieties or music hall, and the public appear to appreciate the privilege There are compensations, however, in regard to the theatre in which smoking is not allowed, which a good many people very properly value—namely, the atmosphere is cleaner and clearer; the floors are not bestrewn with tobacco ash, fag ends of cigars and cigarettes, and dead matches; the annoyance caused by the lighting of matches during a darkened scene is happily avoided; and the fittings are free from tobacco reek. These considerations add not a little to the enjoyment of a play.

THE MATERNITY HOSPITALS AND THE INSURANCE ACT.

IT would surely seem time that some combined action was taken by the maternity hospitals in the United Kingdom in reference to the Insurance Act. On these institutions the duty devolves of training both midwives and students, and the fact that the General Medical Council and the English Midwives Board insist—and most wisely so—that both pupil midwives and medical students must present evidence, among other things, that they have had *each* personal charge of 20 cases of labour, makes it essential that nothing should interfere with the hospitals' power of providing such teaching material. Further, in large towns, it is to the maternity hospitals that the difficult cases among the poor (insured or not) will always be sent. But now that the Insurance Act makes the poverty of many women much less, the questions arise, Should the women or their societies be expected to pay the maternities for providing them with skilled nursing and treatment? and, if so, what scale should be adopted, and should it be the same or different for extern and intern cases? These are problems awaiting solution. It would seem that at present different methods are being adopted in different teaching centres, but the establishment of some system applicable to all maternity hospitals alike ought to be possible after consultation with panel doctors, Approved Societies, and the authorities, lay and medical, of the lying-in charities.

FOUR Gresham lectures on Drugs Old and New will be delivered on May 13th, 14th, 15th, and 16th by Dr. F. M. Sandwith, Gresham professor of physic, at the City of London School, Victoria Embankment, London, E.C. The lectures are free to the public, and will begin each evening at 6 o'clock.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.—The festival dinner of this institution was held on April 16th at the Whitehall Rooms, Hotel Métropole, London. The president of the hospital, Lord Strathcona, was in the chair, and he was supported, among others, by H.S.H. Prince Alexander of Teck, Lord Justice Kennedy, the Dean of Canterbury, Sir David and Lady Ferrier, Sir Frederick and Lady Macmillan, and many members of the visiting staff. The toast of the evening, "Success to the National Hospital for the Paralysed and Epileptic," was proposed by the chairman, and was acknowledged by Sir Frederick Macmillan, chairman of the board of management, who pointed to the progress which had taken place in the past 11 years, and justified the policy of improving the equipment rather than increasing the number of beds. The health of the medical, surgical, and nursing staffs was proposed in an eloquent and discerning speech by Dr. Wace, Dean of Canterbury. Sir Victor Horsley, in reply, paid a great tribute to Lord Strathcona's benefactions to hospitals and to medical science. Modern advances in methods of diagnosis and the obscure nature of the diseases treated there produced a special strain on the finances of the National Hospital; but no medical staff ever had more support from its board than theirs had done during the past 11 years. The secretary, Mr. Godfrey Hamilton, then announced the sums collected that evening, which amounted to over £2300, and included £1000 from Lord Strathcona. Prince Alexander of Teck then proposed the health of the chairman, whom he described as a veteran in Imperial work and in the cause of charity, and Lord Strathcona briefly responded.

FREUD'S THEORY OF DREAMS.[1]

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(Concluded from page 1118.)

III.

BEFORE setting out Professor Freud's elaborate "Psychology of Dream Processes" as given in the concluding chapter of the "Traumdeutung," and using it as the basis of criticism of his theory from the point of view of modern psychology, it will be well for us to consider two rather obvious objections which, if valid, would stultify the theory from the very outset. In the first place it may be contended that the memory for dreams, which is our only source of knowledge of them, is notoriously fallacious. Not only is it fragmentary, showing complete forgetfulness of whole stretches of the dream-experience, but it falsifies those parts that are retained. If a person is asked to describe his dream at different periods after the actual dream-experience, the various accounts which he gives are found to be not only different, but even in many respects inconsistent with one another. He also feels very uncertain about the precise nature of the events described. Morton Prince regards this difficulty in remembering as merely a special instance of "amnesia for dissociated states of consciousness," and a proof that dream-experiences are nothing but such dissociated states brought about by the condition of sleep. But such an explanation can hardly be valid, since Freud and others have found that if they wake up from a dream in the course of the night, interpret it by their method, and then fall to sleep again, they are the next morning often unable to remember either the dream or its interpretation. Now the interpretation is not a "dissociated state," so that Morton Prince's explanation here falls to the ground. The true explanation in Freud's view is that the forgetting is due to the action of the "censor," which in such cases as these suppresses the memory, not only of the dream, but also of its interpretation. It is merely the continuation in the waking state of that process of distortion and secondary elaboration which we have seen to result from the activity of the censor throughout the dream-experience. And since the laws of these processes are known, the amnesia and falsification present no insuperable difficulty to analysis and interpretation. The fragments of the dream that remain in the memory are as a rule sufficient to give the clue to the underlying dream-thoughts when submitted to the technique of psycho-analysis. The feeling of uncertainty which the dreamer often has about the memory of his dream is also to be attributed to the action of the censor, and only by rigorously ignoring this feeling and treating all his memories as on the same level of reliability can he hope to overcome the resistance sufficiently to penetrate to the dream-meaning. Freud has often found, in the case of his hysterical patients, that a dream which the patient has apparently quite forgotten may suddenly rise to memory in the course of a psycho-analysis where a resistance connected with the patient's symptoms has at last been overcome, showing most convincingly that the amnesia for the dream must have been due to a similar, if not the same, resistance.

The second objection is aimed at the reliability of the method of psycho-analysis. It is contended that a chain of free associations starting from any particular portion of the dream may end anywhere, and that then, when another portion is submitted to the same treatment, the associations are no longer completely "free," since they are to some extent, however slightly, determined and constrained by the result of the previous association series. Consequently it is no wonder that in the final result the various chains of association are found all to converge to one and the same system of dream-thoughts.

To this we may reply, firstly, that the interconnexions discovered by this method between the manifest and the latent contents are far too complex and far too full of surprises, cross-connexions, and remarkable coincidences to be regarded as merely the products of the method itself. But, secondly, the method is not with complete accuracy called one of *free* association. All associations without exception are *dominated by some interest or purpose*, and when the subject's voluntary and conscious purposes are allowed to fall into abeyance in the non-critical attitude adopted in psycho analysis, unconscious purposes take their place and guide the course of the ideas It is because of this fact that psycho analysis is able to give us an insight into the nature and structure of the unconscious

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[1] A paper read before the Listerian Society at King's College Hospital on Jan. 21st, 1913.

The other great method that has been found successful in the same task is that of hypnotism, but Freud's objections to hypnotism are that it is not sufficiently universal—only a small proportion of patients are amenable to hypnotism—and also that, although it overcomes some resistance and so widens the field of mental life open to observation, it accentuates the resistances at the border of this field and thus makes complete analysis of the unconscious in any direction impossible As is well known, Professor Jung, of Zürich, has improved on Freud's method by employing lists of words, previously selected and arranged, and calling them out to the subject The subject is told to reply to each as quickly as possible with the first word that comes into his mind The times taken in replying—the association times as they are called—are measured in fifths of a second by means of a stop-watch, and are as valuable as the associations themselves in revealing the workings of the unconscious Those words which strike on an unconscious emotional "complex" or system of ideas give prolonged association times—in hysterical patients as long as six or seven seconds instead of the normal one and a fifth seconds Sometimes the subject is quite unable to give any associated word Such failure or difficulty in responding reveal the resistances to which the ideas in the unconscious are exposed The ideas themselves can only rise to consciousness when these resistances have been completely overcome A combination of the original more natural method and that of Jung is probably the best for the dream analysis of normal persons Certain refinements on Jung's technique are possible, which it is unnecessary for us to consider here

Freud has attempted to give a theoretical explanation of dream processes, which, he thinks, is identical with showing their relations to the better known processes of waking consciousness Considering the structure of the mind on the model of a reflex apparatus receiving sense impressions at the one "end" and controlling the muscular activity of the body at the other, he postulates a number of psychical systems or "*instances*" arranged in definite order—occupying relatively fixed "psychical localities'—between these two limits The excitation corresponding to mental activity passes, in ordinary cases from the sensory to the motor end—i e, in the progredient direction Immediately adjacent to the motor end is the fore conscious, to which the direct control of motility is limited Behind this is the unconscious, separated from the fore conscious by the censor "as by a screen", behind this, again, a series of memory systems whose function it is to retain the after-effects of perception in different forms of interconnexion, the memory system immediately adjacent to the sensory end of the whole apparatus representing memory traces connected merely by associations of contiguity others in front of this corresponding to the same traces related according to similarity, contrast, and other forms of association or logical connexion Freud compares the apparatus to an optical instrument, such as a telescope or microscope, whose lenses would correspond to the subsidiary systems or "instances" above mentioned, and he takes care to emphasise the metaphorical nature of his description The systems have no more real physical positions one behind the other, than have the virtual images produced in certain circumstances by refraction of light through lenses, but their activities are related to one another according to a certain order, and the spatial metaphor is used simply to express this order Now, whereas the normal processes of waking consciousness correspond, as above mentioned to a progredient direction of the flow of excitation through the apparatus of the mind many peculiarities of dream consciousness are explained on the assumption that the course of the excitation is in part "regredient" Owing to the resistance of the censor and the lowered excitability of the fore conscious, the excitation process corresponding to the sleepless working of the unconscious is reflected backwards, and reaches eventually the sensory end of the apparatus, traversing the various memory systems in doing so As a result of this process of "regression" the dream not only acquires sensory or hallucinatory vividness, but its thought relations become replaced by the most superficial forms of association—namely, those of contiguity and similarity In this way the censor is not so much overcome as circumvented, the dream reaching consciousness at the sensory instead of at the motor end In ordinary remembering and waking reverie a similar regression takes place, but it is incomplete and does not pass beyond the memory systems What aids the dream process to actually reach the terminal perceptual system is partly the cessation of the progredient stream of excitation continually passing from the sensory to the motor side of the apparatus of the mind during waking life, but mainly the processes of *displacement* and *condensation* which we have already seen to be characteristic of dream experience, and are peculiarities limited to the working of the unconscious The psychical intensities of unconscious ideas are displaceable so that they can be accumulated upon one single idea or a relatively small number of ideas which thus acquire a sufficient intensity to attract the attention and so become conscious But even these do not become conscious in their own form, but *attract*, or are attracted by, corresponding ideas from the fore conscious, and endow [illegible] with their psychical inten[illegible] hallucinatory vividness [illegible] "selective attraction" to explain the hallucinations of mental disease (other than those resulting from organic lesions), which he thinks are also due to the activity of the unconscious

Speaking in less metaphorical language, the unconscious and the fore conscious correspond to two fundamentally different modes of activity of the mind, of which the former is the more primitive, and it is because the unconscious can only wish and is incapable of any other form of mental activity that dreams have as their innermost meanings wish fulfilments, and wish fulfilments only Freud's attempt to prove this thesis theoretically cannot be regarded as successful, and its lack of plausibility is my excuse for not quoting it in this paper It may as a fact be true, but that is another matter In my own view, fears, anxieties, and antipathies are equally primitive and equally prone to appear as the inner meaning of dreams Nor can I verify from my own experience the view of some of Freud's followers that the wishes forming the dream thoughts or latent contents of dreams are always of a sexual nature Freud himself does not go so far as this, although he is inclined to think it probable It should not be forgotten that he approached the problem of dreams from the side of abnormal psychology Having been led by his studies on hysteria to a new theory of the nature and workings of the unconscious in this class of mental disorder, he then found, or thought he found that the same theory could be made to include the dreams of normal persons, the dreams corresponding to the symptoms of the hysteric in being disguised fulfilments of repressed and therefore unconscious wishes or tendencies And since he found that these wishes in the case of the hysteric were invariably of a sexual nature, dating from early childhood, he was tempted to the view that the wishes fulfilled in dreams are always infantile sexual wishes, and his disciples contend that the results of psycho analysis applied to thousands of dreams bear out this theory All that one can say in reply to this is that these investigators seem somewhat overpowered by the feeling of partisanship and have probably allowed their findings in many cases to be influenced by their expectations Unbiassed psychologists, who have been trained to observe impartially the workings of their minds, are unable to support this extreme view On the other hand, the critics of the Freudian school show an even more pronounced and irrationa[illegible] come fro[illegible] adopted [illegible] Freud's sexual t[illegible] understanding [illegible] in the wide sens[illegible] a much more important part in the mental life of the individual and of the race than is generally recognised, and Freud has made a most valuable contribution to psychology in emphasising its significance and supporting his theory by such a wealth of concrete facts

To return to our problem of dreams Every dream fulfils at least *two* wishes, one originating in the unconscious, the other in the fore-conscious. The fore-conscious wish is the wish to sleep, so that the dream is a compromise between this wish-fulfilment and those of the unconscious. Similarly in the case of hysteria Freud has observed that not only is an unconscious wish fulfilled in a disguised form by the hysterical symptoms, but that a wish originating in the fore-conscious, and generally of the nature of a self-punishment, is also fulfilled by the same symptoms; in fact, the symptoms are so chosen that they conform to both wish-fulfilments and constitute a compromise just as the dream does. Anxiety dreams and anxiety neuroses represent a breaking-down of this compromise and indicate the real purpose of the compromise—viz., to prevent the arousal of the painful feeling known as anxiety. Further discussion of this question belongs to pathological psychology and does not fall within the scope of our present inquiry.

The essence of Freud's dream-hypothesis from the purely theoretical point of view is his distinction of two kinds of mental mechanism, a primary and a secondary. It is the laws of the secondary mechanism that are given in ordinary text-books of psychology. Those of the primary mechanism are in some respects very different. They include the processes of condensation, transference, "draining-off" of energy or intensity from one idea to another, and finally regression, as we have described it earlier in this paper. Freud claims to find the same processes active in cases of hysteria, and seems to regard his view of each of these two classes of facts as confirmatory of the other. All these processes, although psychical in nature, may occur independently of consciousness. Consciousness, in Freud's view, is merely a kind of sense-organ which does or does not perceive these psychical processes and products according to the distribution at the moment of the mental energy which we call attention. This account of consciousness will hardly satisfy psychologists, but many of them will be ready to admit the real existence of the unconscious in the Freudian sense, as well as of the fore-conscious. Many of Freud's difficulties are difficulties of terms rather than of facts. We may accept his facts and value them as new discoveries, while rejecting some of his terms and descriptions as misleading. The term "censor" corresponds to a verifiable fact, but the figurative use which Freud makes of it is not without danger. The censor is not an entity existing by itself and in its own right, nor is it really intelligible apart from all reference to consciousness, as Freud would have it to be; and when he speaks of a second censor between the fore-conscious and consciousness, one feels a still greater difficulty in knowing exactly what meaning to attach to the word. Yet the term is useful as emphasising the fact of repression, and for descriptive purposes is well-nigh indispensable.

One is continually tempted, while reading Freud, to correlate his distinction of a primary and secondary mental mechanism with the physiological distinction of the lower and upper motor circuits in the nervous system, especially as he limits the function of inhibition and the power of facing painful experience, and not merely turning away from it, to the secondary mechanism. But this would be an error, since the distinction corresponds to one within the upper motor circuit—indeed, within the physiological mechanism of the cerebrum itself. The primary process is a process of wish-phantasy which one can easily observe in the mental life of young children. It represents the stage of mental evolution when ideation, as distinct from merely perceptual experience, first became possible, and Freud's work has served to throw a great deal of light upon the nature and mode of working of this obscure and unduly neglected phase of mental life. No psychologist, unless he is hide-bound in tradition and prejudice, can fail to be attracted by the prospect of further psychological advance opened up by this work. Unless Freud's critics are ready to put themselves to the trouble of mastering his technique and giving the method of psycho-analysis an honest trial they do not deserve a hearing, and by their irrational attitude of blind opposition they bring into discredit psychology itself.

ROYAL INSTITUTION.—On Tuesday next (April 29th) at 3 o'clock Professor William Stirling begins a course of three lectures at the Royal Institution on "Recent Physiological Inquiries." Owing to the illness of Professor Bateson, his course of lectures on "The Heredity of Sex and some Cognate Problems" has been postponed.

THE FINAL REPORT OF THE ROYAL COMMISSION ON UNIVERSITY EDUCATION IN LONDON.

I.

IN the following short series of articles we propose to abstract the final report of the Commissioners on University Education in London, which was noticed on its appearance in a leading article in THE LANCET last week. But, although it is our intention to give the gist of the Commissioners' findings and recommendations, the report is so exhaustive and so closely written that our readers must understand that reference to the document itself is indispensable. The whole report is deeply interesting, and should be read by all who are interested in education and in the future of the University of London, while there are innumerable references in it, both direct and indirect, to the medical aspects of the problem.

The Royal Commission on University Education in London was appointed early in 1909

> to inquire into the working of the present organisation of the University of London and into other facilities for advanced education (general, professional, and technical) existing in London for persons of either sex above secondary school age; to consider what provision should exist in the metropolis for university teaching and research; to make recommendations as to the relations which should in consequence subsist between the University of London, its incorporated Colleges, the Imperial College of Science and Technology, the other schools of the University, and the various public institutions and bodies concerned; and further, to recommend as to any changes of constitution and organisation which appear desirable, regard being had to the facilities for education and research which the metropolis should afford for specialist and advanced students in connexion with the provision existing in other parts of the United Kingdom and of His Majesty's Dominions beyond the Seas.

With their final report the Commissioners issue as an appendix of 300 pages the minutes of evidence given before them from February to December, 1912.[1] It will be remembered that on four previous occasions they issued minutes of evidence, and that in December, 1911, they made an interim report upon the question of a University site. Reference to these documents have been made from time to time in THE LANCET. The late Sir William Allchin's unfinished "Account of the Reconstruction of the University of London," undertaken by request of the Commission and very warmly praised in the final report, has also been noticed in our columns.[2]

The final report is preceded by a valuable analysis of its contents which occupies 24 closely printed pages, while the remainder of the Blue-book consists of 218 pages of foolscap.

Part I. opens with a concise statement of what the Commissioners conceived to be the duties imposed upon them by the terms of reference quoted above. In their opinion they had to ascertain: (I.) How the present organisation of the University of London works, and what provision the University of London makes at present for University education—general, professional, and technical. Upon this they were to determine by consideration and inquiry. (II.) What provision should exist in the metropolis for university teaching and research. In deciding this question they were to keep in mind, among other things, that London is the capital of the Empire, and that it may be right to provide there special facilities for education and research for specialist and advanced students in connexion with the provision existing in other parts of the Empire. (III.) When the facts referred to in I. had been ascertained, and the questions to be considered in II. had been determined, they were to make recommendations with regard to the following matters:—

> What, if any, changes in the constitution and organisation of the University are necessary—
> (*a*) To ensure that the University will work harmoniously and well.
> (*b*) To enable the University to make, manage, and develop the provision for university education and research which in our opinion is necessary or desirable.

The two fundamental questions of the reference appeared to the Commissioners to be:—

> How does the present organisation of the University of London work? And what provision ought to be made in London for university teaching and research?

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[1] Cd. 6718. *Price 2s. 5d.*

[2] THE LANCET, vol. i., 1911, p. 1363.

Their task they therefore shortly state as follows :—

To examine the existing provision for university education in London in the light of what we think ought to exist, and to make practical recommendations towards the realisation of the ideal.

With regard to the working of the present organisation of the University the Commissioners state :—

[illegible] recognised for University purposes.

In addition to the difficulties which arise from these two main [illegible] nt machinery of government [illegible] ad to difficulty and delay in [illegible] ct of organisation, but it is [illegible] arise from the second main ground we have mentioned might have been overcome, or at least greatly reduced, if the University had been in possession of substantial funds, and had wisely administered them with these ends in view.

A historical retrospect follows, in which it is shown how the original desire and intention to found a University for London upon the lines of Oxford and Cambridge Universities had to be diverted into the establishment of an [illegible] ked [illegible] An [illegible] the University of London from its foundation to the present time. The Selborne and Gresham Commissions, appointed in 1888 and 1891 respectively, each came to the conclusion that the problem was how to coördinate the recognised teaching institutions of London under a central university. The petition of the Royal Colleges of Physicians of London and Surgeons of England to the Privy Council for a charter was referred to the Selborne Commission and rejected by them. The reason for this petition was the small number of university degrees in medicine obtained in proportion to the number of students and the opportunities for clinical teaching in London. The report of the Gresham Commission was followed by a period of controversy. Four and a half years later the Act of 1898 was passed, containing in a schedule the terms of the compromise arrived at.

The Gresham Commission recommended the Administrative County of London as the university area.

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Dealing with the present relations of the internal and external sides of the University the report before us lays it down that the defects in the present organisation of the University, arising from the relations of the internal and external sides, are largely due to departures from the recommendations of the Gresham Commission, and originate in the provisions of the schedule to the Act of 1898. These provisions, as worked out in the Statutes, hamper, without restricting the executive powers of the Senate, by obliging it to invite and receive a report from one or both of two Standing Committees (i.e., the Academic Council and the Council for External Students) before making any decision affecting internal or external students. The following extracts are from the analysis of the report :—

The Academic Council and the Council for External Students having advisory powers only, and the executive authority being the Senate, neither council can get anything done without the consent of the other, unless it obtains the support of members of the Senate independent of both. The result is that questions on which the two councils are most divided are decided in the Senate by the votes of those who have been least able to consider the merits of the case. The machinery of government has [illegible] prevent duplication of institutions—e g., schools of engineering and medicine. Representation of the University on the governing body of [illegible]

Among other defects which the Commissioners find to be connected with the machinery of government of the University is the limited power given to the faculties by the statute. The Faculty of Medicine in particular, the report says, has become too large for effective work, even within the limited sphere assigned to it.

Part II. of the report forms a masterly essay on the aim and scope of modern university education. Its theme is the essentials of a university in a great centre of population. The nature of the provision required in London for university education and research is first discussed, as a necessary preliminary to constructive proposals. We only quote briefly again from the analysis :

[illegible] university [illegible] under full [illegible]

Still dealing with general principles, the Commissioners touch on the subjects of university education for evening students, technological instruction, and working men's classes. Proceeding to the question of degrees and examinations the report contains matter of fundamental importance.

The granting of degrees is one of the chief characteristics of all universities, although it is not the real end of its existence. ...... The [illegible] or [illegible] sity [illegible] it [illegible] been [illegible] a [illegible] are also distinctions.

The examination test, which is the main test in English universities, is discussed from various points of view. External examinations associated with a wide or detailed syllabus of subjects are condemned as tending to uneducational methods of work. The Commissioners object to the whole system of external examination; they say it is based on want of faith in the teachers.

> The present internal examinations are practically external owing to the number of institutions involved and the demands of the common syllabus. Degrees should not be awarded upon examination alone, but should, subject to proper safeguards, be practically the certificates [illegible] of the student's work. [illegible] of a lower standard or [illegible] the standard is equal to its own, until there is general understanding of the true meaning of a university education. But this recognition must not hamper the development of the teaching over which the university has complete control.

The report then proceeds to lay down the conditions necessary for the realisation of the foregoing ends. These, very briefly stated, are as follows: (1) A previous sound general education, giving the power of accurate expression and orderly thought; (2) homogeneity of university classes; (3) a university quarter where the constituent colleges and university departments are grouped together; (4) university hostels and societies, extending the influence of the university over its students; (5) a university professoriate, its own teachers appointed, paid, pensioned, and dismissed by the university; (6) professorial control of teaching and examination; and (7) complete financial control by the University of all the institutions within it.

The following extract from the analysis shows the scheme of government of the University proposed by the Commissioners:—

> The supreme power of the University should be vested in a widely representative Court. The argument that a large and heterogeneous body would have no power is due to confusion of thought between legislative and executive functions. The Court would have final control over the statutes, the admission of institutions as constituent colleges, and the recognition of others as schools of the University.
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> The Senate should be so constituted as to be able to work out a care- [illegible] intenance and development of univer- [illegible] of its members should be nominated [illegible] other bodies, nor should it consist as to any large part of teachers. Sudden reversals of policy would be guarded against by the legislative control vested in the court, and by its power of bringing public opinion to bear upon University policy.
>
> The Academic Council should be a body of University teachers to which the Senate might delegate some executive functions, and so con- [illegible] s to ensure that the Senate [illegible] niversity professoriate upon [illegible] ersity as a whole.
>
> [illegible] should be provided for the [illegible] e statutes should be simple [illegible] to be settled by regulations [illegible]
>
> [illegible] institutions the principles [illegible] s of the professorial type everywhere else would establish a standard to which institutions for the moment excluded from the University would ultimately be raised. For some institutions meantime a looser form of connexion must be provided and opportunity for graduation offered to the external student.

They sum up by adding that any reconstruction less fundamental than that proposed would be useless.

(To be continued.)

A COLLIERY GARDEN VILLAGE.—The first colliery garden village in South Wales is being formed in Gilfach Goch, a district which, though not actually in the Rhondda valleys, is almost adjoining and very closely associated with that locality. About 70 acres of land have been acquired upon which it is proposed to erect 1000 houses, each of which will have a garden containing some 300 superficial feet. Every house is to have a water-supply, and a hot-water supply will be in each house provided with a bath. The houses are to cost from £200 to £250 each, and will be erected in blocks. The estimated total cost of the undertaking is about £116,000, two-thirds of which will be borrowed from the Public Works Loan Commissioners. It is hoped that between £4000 and £5000 will be taken up in shares by prospective tenants, and £35.000 will be raised by loan stock. The collieries in the vicinity of the village are turning out 200,000 tons of coal yearly, and it is anticipated that with the sinking of other pits this amount may be multiplied four or five times over.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

St. Austell Rural District.—A good deal of public attention has been drawn to the sanitary condition of villages in Cornwall in recent years, and Dr. A. T. Nankivell's report on the district of St. Austell shows that many parts of it require more attention than they have hitherto received in such matters as water-supply, public scavenging, diminution of overcrowding, and improvement in the condition of working-class dwellings. The population of St. Austell is now estimated at over 33,000, and the conspicuous diminution in the number of inhabitants which set in with the decline of tin mining in 1880 has now been checked in consequence of the rise in prosperity of the china clay industry. The latter has led to a demand for house accommodation which is not met by local supply. The lack of houses tends to restrict the progress of the chief local trade while making it increasingly difficult for any sufficient action to be taken by the local authorities in the case of houses which ought to be closed as unfit for human habitation. The difficulties are increased by the immigration of casuals and tramps, of whom some 1300 pass through the workhouse in the year. Dr. Nankivell states that there is already a house famine and nowhere to put tenants who would be displaced by closing orders, and with a view to determining the places in which working-class dwellings are most needed he has made a special survey which should facilitate the task of the district council if it decides to use the Housing Acts to provide working-class houses in suitable situations. It appears from the report that building schemes could be undertaken with great advantage to the district, and probably with little pecuniary loss to the council. Shortage of working-class houses, and dwellings which are structurally unfit for human habitation, are met with conspicuously in the picturesque little town of Fowey, which also suffers from a deficient water-supply, incomplete sewerage, and unsatisfactory scavenging. Fowey is now to be constituted a borough, and so will be separated from the rest of the district, and in future have its own town council and sanitary officers. When it is considered that the population of the place is barely 2300, and that a penny rate produces only £43, it is doubtful whether the privilege of incorporation, however satisfactory on political or sentimental grounds, will work for better sanitary government. St. Austell district, like so many others in Cornwall, has no isolation hospital, and in this and in many other matters it is to be hoped that the local authority will give attention to the recommendations in this report, which obviously represents a great amount of labour. Dr. Nankivell must, however, allow us to quarrel with one sentence in it: "It has been possible to root out leprosy from this and other countries, and it is equally possible to banish tuberculosis." It may be pathologically correct to compare the leper and the consumptive, but in other respects we think the analogy is to be avoided.

Borough of Barnstaple.—Dr. Herbert C. Jonas's report on this old Devonshire town has several points of interest. Antiquity, which is often pleaded as an excuse for inaction in sanitary matters, hardly condones the dumping of town refuse on the outskirts of the borough in a place where it causes serious annoyance to the inhabitants and is constantly rooted over by pigs. In this, and in the provision of covered ashbins in place of filthy ashboxes in the town, there is room for considerable improvement. An inspection of the water-supply early last year led to the discovery of several dead ends to water mains which were provided with ball hydrants, which gave rise to danger of pollution of the supply by insuction, and it is satisfactory to read that these are being replaced by efficient valves. The River Taw is seriously polluted by sewage, the whole of the Barnstaple sewage being discharged untreated into the tidal portion of the stream. It is suggested that the present temporary isolation hospital should be enlarged, and that neighbouring districts should then share in its use. No hospital accommodation is available for small-pox cases, and Dr. Jonas points out that the population now growing up is largely unprotected by vaccination. In the last three and a half years practically 75 per cent. of the children born are unvaccinated. Great improvement is reported in the condition of the districts with worst housing. Out of 216 dwellings inspected for the purposes of Section 17 of the Housing and Town Planning Act as many as 182 were considered to be in a state dangerous or injurious to health; in 112 of these the defects were remedied without the making of a closing order; in 21 the closing order was made, and in 8 the houses were demolished. Looking to the size of the town and to the conditions described by Dr. Jonas this seems to indicate very satisfactory progress, especially if the town council accompany it by the provision of suitable new working-class accommodation.

Borough of Reigate.—In a preface to his annual report Dr. Arthur E. Porter observes that, "the modern tendency of public health administration appears to be to impose large administrative duties upon county councils, while leaving much of the spadework to be carried out by the constituent authorities." He considers it arguable whether this is a desirable arrangement in a county like Surrey, where the standard of public health administration is relatively high. In Reigate much useless clerical work is entailed, while the reciprocal benefit received is quite negligible. Dr. Porter goes on to criticise the Milk and Dairies Bill from this point of view, pointing out that in Surrey reference to the county headquarters is singularly inconvenient for the important districts situated in its eastern half. A hybrid arrangement whereby administrative and executive duties are shared by the larger and smaller authorities in his view cannot fail to be accompanied by overlapping, by regrettable delays, and unnecessary clerical and other work. Most of the houses in the district are supplied by the East Surrey Water Company, the population of whose statutory area now amounts to something like 90,000 persons. The supply, estimated at 25 to 30 gallons per head per diem in Reigate, is derived from deep wells bored about 125 feet into the chalk at Purley and Kenley, where it is softened to 4° Clark or thereabouts. So long as it maintains its high degree of purity it must be placed in the front rank of public water-supplies, but Dr. Porter points out that the chalk which forms the gathering ground is yearly becoming more and more built over, and that while the larger centres are drained to sewers, cesspools are attached to the more scattered groups of dwellings. He considers that the risk that at some future date fissures from which the company's wells derive their water may become polluted by domestic drainage should be guarded against. This is probably more necessary now that the company has obtained Parliamentary sanction to erect additional pumping machinery at their Purley station. In regard to "holiday children" from London Dr. Porter states that stringent measures have been adopted for some years to inspect the houses to which the children are sent, and that every year various societies in London are asked whether they propose to send children to the borough, and if so to furnish a list of the proposed lodgings. It has been found that since this system was adopted the number of holiday children that come to Reigate has been steadily reduced year by year.

REPORTS OF SCHOOL MEDICAL OFFICERS.

Durham County Council.—The work of this education district extends over 622,000 acres, with a population of 707,000 (estimated middle of 1910). There were 138,303 children on the roll attending at 397 schools with 694 departments. To do this work Dr. T. Eustace Hill, the school medical officer, has the help of eight assistants, three of whom are women, and of three school nurses. During 1911, 26,885 children were inspected, 25,302 being routine and 1583 special cases. The tenor of the reports from the different examinations is satisfactory. The percentage of girls with verminous heads was reduced from 48·7 per cent. to 37·4 per cent. and of boys from 1·2 per cent. to 0·69 per cent. Legal proceedings were sanctioned by the education committee against parents whose children were persistently verminous. In only 8 cases out of 30 were prosecutions instituted, 3 were withdrawn, 1 was dismissed on technical grounds, the parent getting a severe reprimand from the chairman of the bench, and in 4 cases convictions were obtained and fines imposed varying from 5*s.* to 20*s.*, plus costs. Scabies was unfortunately very prevalent during the year. Cases with ringworm of the head are allowed to attend school if wearing a washable linen cap. The medical officer calls special attention to the need for the provision of facilities for treatment of this ailment. And attention is also called to the need for reasonable encouragement to teachers to obtain a practical knowledge of hygiene, and further to the need for the provision of open-air classes or schools. Among special reports is one by Miss Cooper Hodgson, health visitor for the central district, who notes that chronic absentees, presumably away from school "to get fresh air," are usually found "hanging about in the house, untidy, depressed-looking little drudges nursing heavy babies, scrubbing floors, or helping with the family washing, or perhaps bread-baking." Dealing with 34 verminous families Miss Hodgson says "in only four cases can the parents be regarded as normal," and enumerates the "parental defects" in the 30. But the classification is too sweeping and too much a matter of individual opinion to be of scientific value. Its publication gives an impression of exactitude probably not deserved. A medical officer has been appointed especially to do refraction work, and has dealt with 366 cases from Sept. 25th, 1911, to Dec. 15th.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8960 births and 5420 deaths were registered during the week ended Saturday, April 19th. The annual rate of mortality in these towns, which had been 16·9, 15·6, and 15·2 per 1000 in the three preceding weeks, rose to 15·8 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 16·9 per 1000, against a corresponding rate of 17·5 in London. The death-rates last week in the several towns ranged from 4·6 in Ealing, 6·1 in Enfield, 6·6 in Ilford, 7·2 in Leyton, and 7·5 in Bournemouth, to 21·7 in Hastings, 21·8 in Stoke-on-Trent and in Carlisle, 21·9 in Stockton-on-Tees, 22 3 in Dewsbury, and 24·0 in Wolverhampton.

The 5420 deaths from all causes in the 96 towns were 225 in excess of the number in the previous week, and included 412 which were referred to the principal epidemic diseases, against numbers steadily declining from 464 to 394 in the five preceding weeks. Of these 412 deaths, 203 resulted from measles, 74 from whooping-cough, 65 from infantile diarrhœal diseases, 41 from diphtheria, 17 from scarlet fever, and 12 from enteric fever, but *not one from small-pox.* The mean annual death-rate from these diseases last week was equal to 1·2 per 1000, and coincided with that recorded in each of the three preceding weeks. The deaths attributed to measles, which had been 208, 215, and 213 in the three preceding weeks, fell to 203 last week, and caused the highest annual death-rates of 1·9 in Willesden, 2·3 in Wigan, 2·6 in Bolton, 2·9 in Southend-on-Sea, 3·1 in St. Helens, 3·3 in Wolverhampton, 3·8 in West Bromwich, *and 6·2 in Gloucester. The deaths referred to whooping-cough,* which had steadily fallen from 83 to 50 in the five preceding weeks, rose to 74 last week, and included 26 in London and 3 each in Southend-on-Sea, in Birmingham, in Manchester, in Leeds, and in Merthyr Tydfil. The fatal cases of diarrhœa and enteritis (among infants under 2 years of age), which had been 71, 53, and 63 in the three preceding weeks, were 65 last week; 18 deaths occurred in London and 3 each in Stoke-on-Trent, in Wolverhampton, and in Middlesbrough. The deaths attributed to diphtheria, which had been 37, 35, and 36 in the three preceding weeks, rose to 41 last week, of which number 11 were registered in London and 3 each in Bradford, in Leeds, and in Stockton-on-Tees. The deaths referred to scarlet fever, which had been 19, 23, and 19 in the three preceding weeks, were 17 last week, and included 5 in Birmingham, 3 in London, and 2 in St. Helens. The fatal cases of enteric fever numbered 12 last week, against 8, 16, and 13 in the three preceding weeks.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the *London Fever Hospitals,* [illegible] 2112 to 1357 in the 16 pre- [illegible] to 1334 on Saturday last; [illegible] during the week, against 168, 167, and 148 in the three preceding weeks. These hospitals also contained on Saturday last 851 cases of diphtheria, 754 of measles, 260 of whooping-cough, and 38 of enteric fever, but not one of small-pox. The 1424 deaths from all causes in London were 136 in excess of the number in the previous week, and were equal to an annual death-rate of 16·4 per 1000. The deaths referred to diseases of the respiratory system, which had steadily declined from 453 to 285 in the seven preceding weeks, rose to 329 last week, and were 84 above the number recorded in the corresponding week of last year. The deaths attributed to influenza numbered 28, against 45 in each of the two preceding weeks.

Of the 5420 deaths from all causes in the 96 towns, 171 resulted from different forms of violence, and 389 were the subject of coroners' inquests. The causes of 50, or 0·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Leeds, Bristol, Hull, Nottingham, Portsmouth, Salford, and in 55 other smaller towns. Of the 50 uncertified causes of death, 9 were registered in Birmingham, 7 in Liverpool, 4 in Stoke-on-Trent, 4 in Warrington, 3 in Bootle, 3 in St. Helens, and 3 in Sheffield.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 661 births and 481 deaths were registered during the week ended Saturday, April 19th. The annual rate of mortality in these towns, which had been 23·8, 23·3, and 22·5 per 1000 in the three preceding weeks, further declined to 20·9 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these Irish towns averaged 22·2 per 1000; in the 96 large English towns the corresponding rate did not exceed 16·9, while in the 16 Scotch towns it was equal to 19·1 per 1000. The annual death-rate last week was equal to 24·1 in Dublin (against 16·4 in London and 17·3 in Glasgow), 16·9 in Belfast, 22·4 in Cork, 12·7 in Londonderry, 29·8 in Limerick, and 11·4 in Waterford, while in the remaining 21 smaller towns the mean death-rate was 23·1 per 1000.

The 481 deaths from all causes in the 27 Irish towns were 36 fewer than the number in the preceding week, and included 42 which were referred to the principal epidemic diseases, against 39 and 37 in the two preceding weeks. Of these 42 deaths, 18 resulted from measles, 10 from infantile diarrhœal diseases, 6 from whooping-cough, 5 from diphtheria, and 3 from scarlet fever, but not one from enteric fever or from small-pox. These 42 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·9, against 1·2 per 1000 in the 96 large English towns. The deaths attributed to measles, which had been 17, 14, and 14 in the three preceding weeks, rose to 18 last week, and included 10 in Wexford, 4 in Belfast, and 2 in Newry. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 8, 11, and 10 in the three preceding weeks, were again 10 last week, of which number 8 were registered in Dublin. The fatal cases of whooping-cough, which had been 10, 5, and 3 in the three preceding weeks, slightly rose to 6 last week, and included 5 in Dublin. Of the 5 deaths attributed to diphtheria, which were equal to the average in the five preceding weeks, 2 occurred in Dublin, 2 in Londonderry, and 1 in Belfast. The 3 deaths referred to scarlet fever were recorded in Belfast. In addition to the above diseases a fatal case of typhus was registered in Dublin.

The deaths referred to diseases of the respiratory system, which had been 122, 142, and 109 in the three preceding weeks, further declined to 92 in the week under notice. Of the 481 deaths from all causes, 152, or 32 per cent., occurred in public institutions, and 8 resulted from different forms of violence. The causes of 22, or 4·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

VITAL STATISTICS OF LONDON DURING MARCH, 1913.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to an annual rate of 4·8 per 1000 of the population, estimated at 4,518,191 persons in the middle of the year; in the three preceding months the rates were 5·5, 5·3, and 4·8 per 1000 respectively. The lowest rates last month were recorded in Hammersmith, Chelsea, Hampstead, the City of London, and Shoreditch; and the highest rates in Southwark, Bermondsey, Battersea, Wandsworth, Camberwell, Deptford, and Lewisham. The prevalence of scarlet fever showed a considerable decline last month; this disease was proportionally most prevalent in Poplar, Bermondsey, Lambeth, Battersea, Camberwell, and Deptford. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 2088, 1717, and 1639 at the end of the three preceding months, had further declined to 1436 at the end of last month; the weekly admissions averaged 153, against 226, 196, and 189 in the three preceding months. Diphtheria was rather more prevalent than it had been in the preceding month; among the several metropolitan boroughs the greatest proportional prevalence of this disease was recorded in Paddington, St. Pancras, Stepney, Southwark, Bermondsey, Battersea, Wandsworth, Lewisham, and Woolwich. The Metropolitan Asylums Hospitals contained 901 diphtheria patients at the end of last month, against 959, 925, and 913 at the end of the three preceding months; the weekly admissions averaged 122, against 120, 122, and 118 in the three preceding months. The prevalence of enteric fever showed a slight decline last month; this disease was proportionally most prevalent in Paddington, the City of Westminster, St. Pancras, Bethnal Green, and Bermondsey. There were 42 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 37 and 44 at the end of the two preceding months; the weekly admissions averaged 7, against 7 and 6 in the two preceding months. Erysipelas was proportionally most prevalent in Chelsea, Finsbury, Bethnal Green, Stepney, Southwark, Camberwell, Deptford, and Greenwich. The 31 cases of puerperal fever notified during the month included 7 in Islington, 3 in the City of Westminster, 3 in Finsbury, 3 in Stepney, 2 in Fulham, and 2 in Lambeth. The 11 cases of cerebro-spinal meningitis included 5 in Stepney; and the 2 cases notified as poliomyelitis belonged respectively to the City of Westminster and Hampstead.

The mortality statistics in the table relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the several boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex- and age-constitution of the populations of the several boroughs. During the four weeks ending March 29th the deaths of 6105 London residents were registered, equal to an annual rate of 18·5 per 1000; in the three preceding months the rates had been 12·5, 17·8, and 19·0 per 1000 respectively. The death-rates last month ranged from 12·4 in Lewisham, 13·4 in Hampstead, 13·6 in the City of London, 14·3 in Wandsworth, 16·1 in Holborn, 16·2 in Greenwich, and 16·3 in Fulham, to 20·1 in Bethnal Green, 20·5 in St. Marylebone, 21·2 in Islington and in Finsbury, 21·4 in Bermondsey and in Deptford, 22·2 in Southwark, and 22·7 in Shoreditch. The 6105 deaths from all causes included 506 which were referred to the principal infectious diseases; of these, 284 resulted from measles, 8 from scarlet fever, 34 from diphtheria, 93 from whooping-cough, 1 from enteric fever, and 86 from diarrhœa and enteritis among children under two years of age. The lowest death-rates from these diseases were recorded last month in Hampstead, St. Pancras, Stoke Newington, Holborn, the City of London, and Lewisham; and the highest rates in Hammersmith, St. Marylebone, Bethnal Green, Southwark, Bermondsey, and Battersea. The 284 deaths from measles were slightly below the average number in the corresponding period of the five preceding years; this disease was proportionally most fatal last month in St. Marylebone, Bethnal Green, Southwark, Bermondsey, Lambeth, and Battersea. The 8 fatal cases of scarlet fever showed a decline of 19 from the corrected average number, and included 2 in the City of Westminster. The 34 deaths from diphtheria were 15

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MARCH, 1913.

(*Specially compiled for* THE LANCET.)

Cities and Boroughs.	Estimated population in the middle of 1913.	Notified Cases of Infectious Disease.												Deaths from Principal Infectious Diseases.									Deaths from all causes.	Death rate per 1000 living.†
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,518,191	1	718	575	—	34	1	31	278	11	2	1651	4·8	—	234	8	34	93	1	86	506	1·5	6105	18·5
West Districts.																								
Paddington	142,210	—	15	37	—	2	—	—	4	—	—	58	5·3	—	3	—	—	5	—	2	10	0·9	186	18·3
Kensington	171,284	—	22	13	—	—	—	—	9	—	—	44	3·3	—	9	—	—	3	—	1	13	1·0	230	18·9
Hammersmith	123,745	—	17	10	—	—	—	—	—	—	—	27	2·8	—	6	—	1	10	—	3	20	2·1	179	19·7
Fulham	157,117	—	25	20	—	—	—	2	8	—	—	55	4·6	—	5	—	2	7	—	—	14	1·2	188	16·3
Chelsea	64,598	—	5	1	—	—	—	1	5	—	—	12	2·4	—	5	—	—	—	—	—	5	1·0	93	19·5
City of Westminster	154,810	—	27	12	—	3	—	3	8	—	—	53	4·5	—	6	2	1	2	—	2	13	1·1	211	20·0
North Districts.																								
St. Marylebone	114,532	—	17	12	—	1	—	—	4	—	—	34	3·9	—	13	—	2	1	—	2	18	2·0	169	20·5
Hampstead	86,346	—	11	5	—	—	—	1	—	—	—	17	2·6	—	3	—	—	—	—	1	4	0·6	79	13·4
St. Pancras	214,330	—	20	33	—	4	—	1	16	1	—	75	4·6	—	9	1	—	1	—	1	12	0·7	305	19·4
Islington	325,585	—	42	41	—	2	—	7	15	—	1	108	4·3	—	21	1	2	5	—	9	38	1·5	505	21·2
Stoke Newington	50,518	—	7	4	—	—	—	—	1	—	—	12	3·1	—	2	—	1	—	—	—	3	0·8	68	18·3
Hackney	223,353	—	21	16	—	—	—	1	12	—	—	50	2·9	—	12	1	1	3	—	4	21	1·2	299	18·2
Central Districts.																								
Holborn	46,949	—	4	5	—	—	—	—	3	—	—	12	3·3	—	1	—	1	1	—	—	3	0·8	54	16·1
Finsbury	84,679	—	3	5	—	1	—	3	9	—	1	22	3·4	—	4	—	—	3	—	4	11	1·7	133	21·2
City of London	17,916	—	2	1	—	—	—	—	—	—	—	3	2·2	—	—	1	—	—	—	—	1	0·7	17	13·6
East Districts.																								
Shoreditch	109,654	—	9	4	—	—	—	—	7	—	—	20	2·4	—	3	—	—	1	—	11	15	1·8	182	22·7
Bethnal Green	127,824	—	13	9	—	2	—	1	20	—	—	45	4·6	—	11	—	—	4	1	4	20	2·0	195	20·1
Stepney	275,300	—	37	48	—	—	—	3	22	5	—	115	5·4	—	12	—	5	1	—	10	28	1·3	370	18·3
Poplar	160,913	—	36	13	—	1	—	—	9	1	—	60	4·9	—	10	—	1	5	—	2	18	1·5	235	19·6
South Districts.																								
Southwark	188,487	1	35	29	—	1	—	1	16	1	—	84	5·8	—	24	—	2	5	—	1	32	2·2	306	22·2
Bermondsey	124,739	—	30	21	—	4	—	1	6	1	—	63	6·6	—	20	—	1	6	—	5	32	3·5	200	21·4
Lambeth	297,139	—	75	31	—	4	1	2	13	—	—	126	5·5	—	26	—	2	6	—	7	41	1·8	384	17·3
Battersea	167,464	—	39	28	—	3	—	1	5	—	—	76	5·9	—	33	—	2	1	—	1	37	2·9	237	19·7
Wandsworth	330,395	—	61	58	—	2	—	1	22	1	—	145	5·7	—	18	1	1	4	—	5	29	1·1	344	14·3
Camberwell	261,805	—	55	31	—	1	—	1	26	1	—	115	5·7	—	15	—	1	10	—	7	33	1·6	335	17·3
Deptford	109,280	—	23	9	—	1	—	—	18	—	—	51	6·1	—	3	—	4	5	—	2	14	1·7	171	21·4
Greenwich	96,015	—	17	11	—	1	—	—	8	—	—	37	5·0	—	3	—	1	1	—	2	7	1·0	117	16·2
Lewisham	168,822	—	31	47	—	1	—	—	7	—	—	86	6·6	—	4	—	1	1	—	—	6	0·5	154	12·4
Woolwich	122,382	—	19	21	—	—	—	1	5	—	—	46	4·9	—	3	1	2	2	—	—	8	0·9	159	18·1
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

† The death rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

fewer than the corrected average number; this disease was proportionally most fatal in St. Marylebone, Stepney, Deptford, and Woolwich. The 93 fatal cases of whooping-cough were 53 below the corrected average number; the highest death-rates from this disease were recorded in Paddington, Hammersmith, Fulham, Finsbury, Bermondsey, Camberwell, and Deptford. Only 1 death from enteric fever was registered in London last month, the corrected average number being 10. The mortality from diarrhœa and enteritis among children under two years of age was proportionally greatest in Finsbury, Shoreditch, Stepney, Bethnal Green, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases, excluding diarrhœa, was 19·4 per cent. below the average.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Surgeon-General A. W. May has taken up duty in the Admiralty Medical Department preliminary to taking over the Director-Generalship of the Department on May 11th.

Surgeon-General A. J. J. Johnston has succeeded Surgeon-General May in the medical charge of the Naval Hospital, Chatham.

In accordance with the provisions of His late Majesty's Order in Council of August 11th, 1903, Surgeon John McCutcheon has been allowed to withdraw from His Majesty's Naval Service with a gratuity (dated April 13th, 1913).

The successful candidates at the April examination for the Naval Medical Services, whose names were announced in THE LANCET last week (p. 1124), have been entered as acting surgeons and appointed to the *Victory*, additional, for a course of instruction at the Naval Medical School, Royal Naval College, Greenwich, and at Haslar Hospital.

ROYAL ARMY MEDICAL CORPS.

Captain David S. Buist is seconded for service with the Egyptian army (dated Feb. 26th, 1913).

Surgeon-General L. E. Anderson has been appointed to the Administrative Staff of the forthcoming Irish Command Staff tour.

Colonel H. M. Sloggett has been selected for appointment as Assistant Director of Medical Services to the Belfast District. Colonel F. J. Jencken has been granted one month's leave of absence.

Brevet-Colonel Sir William B. Leishman has been appointed a member of the Advisory Medical and Sanitary Committee for Tropical Africa.

Lieutenant-Colonel J. D. Ferguson, D.S.O., has been, selected for appointment to the Straits Settlements. Lieutenant-Colonel W. T. Mould has been granted three months' leave of absence. An exchange of positions on the roster for service abroad has been approved between Lieutenant-Colonel N. Manders, at the Curragh Camp, and Lieutenant-Colonel M. T. Yarr, of the London District, who will now proceed abroad during the coming trooping season. Lieutenant-Colonel F. W. Hardy has taken over charge of the Military Hospital at Allahabad Cantonment.

Major W. L. Bennett has been appointed to the Northern Command. Major H. A. Hinge has taken up duty in the Aldershot Command. Major P. S. O'Reilly has been granted eight months' leave of absence home from India. Major J. F. M. Kelly has arrived home for duty from Potchefstroom. Major G. Dansey-Browning has embarked for a tour of duty at Gibraltar. Major A. L. Scott has been transferred from Aldershot to Deepcut. Major J. Matthews has taken up duty at Secunderabad Cantonment. Major H. Herrick has arrived home on leave of absence from India. Major R. L. Argles has been transferred from Cahir to Tralee. Major E. F. Q. L'Estrange has been selected to command the Military Hospital at Cannanore. Major J. Poe has arrived home from South Africa. Major E. W. Siberry has been appointed to the London District. Major J. E. Brogden has been transferred to Malta from Gibraltar. Major W. P. Gwynn has been granted eight months' leave of absence home from Burma.

Captain A. G. Wells has been selected as Specialist in Operative Surgery to the Third (Lahore) Division of the Northern Army. Captain A. C. Vidal has arrived home for duty from South Africa. Captain A. Dawson has been appointed to the Irish Command. Captain T. E. Harty has been selected as Specialist in Dermatology and Venereal Diseases at the Military Hospital, York. Captain J. A. Clark has been selected for service with the Egyptian Army. Captain J. L. Wood has arrived home on leave of absence from Naini Tal. Captain H. Harding has taken up duty in the Eastern Command. Captain E. H. M. Moore has been transferred from the Military Hospital at Chatham to Shoeburyness. Captain G. De la Cour has been appointed to the Dublin District. The following Captains have been notified that they will be required for service abroad during the coming trooping season: L. Cotterill, J. McKenzie, A. H. Hayes, H. J. Crossley, R. Storrs, R. L V. Foster, J. A. Turnbull, J. G. Bell, T. S. Coats, and J. C. G. Carmichael. Captain F. R. Laing has embarked for a tour of service in India. Captain M. B. H. Ritchie has been transferred from the Military Hospital at Campbellpore to Mhow Cantonment. Captain F. A. McCammon has been appointed to the Irish Command. Captain G. B. Churchill has taken up duty at the Military Hospital, Bulford Camp. Captain A. W. Bevis has taken up duty in the Belfast District. Captain A. H. Bond has been transferred from the Military Hospital at Fermoy to Queenstown for duty. Captain W. Davis has taken up duty at the Military Hospital, Meerut Cantonment. Captain R. F. O'T. Dickinson has arrived home on leave of absence from Bareilly Cantonment. Captain G. A. K. H. Reed has been selected as Specialist in Physical Training to the Aldershot Command. Captain H. Stewart, Captain C. T. Edmunds, and Captain E. J. Kavanagh have been appointed for duty on board the transport s.s. *Plassy*.

Lieutenant R. B. Phillips has taken up duty in the Cork District. Lieutenant J. S. Levack has embarked for a tour of service in India. Lieutenant B. H. H. Spence has been transferred from the Royal Herbert Hospital to the Royal Army Medical College. Lieutenant G. O. Chambers has left Lichfield for a tour of service in Egypt. Lieutenant B. Biggar has been transferred from London to Windsor. Lieutenant J. M. Elliott has taken up duty at the Military Hospital, Hilsea.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel E. Wilkinson has been granted leave of absence from India for one year and nine months. Lieutenant-Colonel G. A. W. Hall has been selected for the increased rate of pay under Article 7 of the Royal Warrant for Pay and Promotion. Lieutenant-Colonel F. J. Dewes has returned to duty in Burma. Lieutenant-Colonel B. H. Deare has taken up temporary duty as Officiating Principal of the Medical College at Calcutta. Lieutenant-Colonel D. T. Lane has been appointed Civil Surgeon at Ambala.

Major R. Bryson has been selected for appointment as Officiating Surgeon to the First District Madras and Superintendent of the Royapuram Medical School in Madras City. Major F. V. O. Beit, on relief by Lieutenant-Colonel F. J. Dewes, has been selected as Civil Surgeon at Meiktila Cantonment, Burma, in succession to Captain H. W. Farebrother, R.A.M.C. Major L. E. Gilbert has been selected for appointment by the Government of Burma Major W. H. Kenrick has been granted leave of absence home from India. Major C. A. Sprawson has been selected for appointment as Professor of Obstetrics on the staff of King George's Medical College at Lucknow. Major Bhola Nauth has arrived in London on leave of absence. Major R B B. Foster has been selected as District Medical Officer at Malabar and Superintendent of the Lunatic Asylum at Calicut.

Captain L. Hirsch has been granted combined leave of absence home, with study leave, for one year and a half. Captain R. D. Saigol has been appointed Ophthalmic Surgeon to the General Hospital, Rangoon, during the absence of Captain E. A. Walker. Captain E. T. Harris has been transferred to Bassein. Captain J. Woods has arrived home on leave of absence. Captain S. C. Poe has been selected as Substantive Medical Officer to the 108th Regiment of Native Infantry, stationed at Bombay, in succession to Major W. H. Cox, D.S.O. Captain N. S. Simpson has been appointed to the Benares District as Plague Medical Officer, in succession to Captain J. S. O'Neill. Captain C. F. Marr has been granted an extension of his leave of absence.

TERRITORIAL FORCE

Royal Army Medical Corps

2nd Welsh Field Ambulance Royal Army Medical Corps. John Sydney Rowlands to be Lieutenant (dated March 12th, 1913)

Attached to Units other than Medical Units—Lieutenant Robert Lindsay to be Captain (dated Dec 5th, 1912)

For attachment to Units other than Medical Units—George Francis Raw [illegible]
Major, Cheshire Field [illegible]
Royal Engineers) to [illegible]
Josiah Walker to be Lieutenant (dated March 18th, 1913)

FLYING PAY FOR ROYAL NAVY OFFICERS

An Order in Council sanctions the following arrangements —(1) Medical officers who obtain the certificate of the Royal Aero Club at their own expense to be eligible for the gratuity of £75, provided the permission of the Admiralty to undergo such training has first been obtained, (2) medical officers trained at the Central Flying School or at a naval flying school to be paid half the authorised rate of flying pay while under instruction, (3) after attaining such standard of proficiency as may be laid down, medical officers to be paid the authorised rate of flying pay. (*a*) for any days on which they may be required to fly on duty, (*b*) for days on which it may be necessary for them to carry out practice flights, not exceeding two per month

HEALTH OF THE UNITED STATES ARMY IN 1911

[illegible]

ending June 30th, 1912 The mean strength of the troops was 72748 for whom the ratio of admission to sick report was 935 74 per 1000, the constantly non effective rate 33 28, the death rate 4 77, and the rate of discharge for disability (invaliding) 13 85 per 1000, the admission and constantly non effective ratios are the lowest hitherto recorded, and the death rate lower than in any previous year except 1910, when it was 4 46 per 1000 During and since the Spanish American war in 1898 exposure to tropical climates and the conditions consequent upon occupation of new territory caused considerable increase in sickness, this has been steadily diminishing with increase of knowledge *of tropical diseases and preventive medicine and the establishment of more sanitary conditions of living* in the recently acquired tropical possessions The bulk of the troops (55 240) serve within the area of the United States, their admission rate to hospital was 887 8 per 1000, while the ratio for "discharge on certificate of disability" and the death rate were 15 0 and 4 72 respectively In the Philippine Islands the garrison consisted of 12 454 men, for whom the respective ratios were 1218 24, 11 64, and 5 30 In Hawaii were stationed 2014 troops, with corresponding ratios of 1080 44 13 9, and 2 98 In Alaska the garrison consisted of 1119 men, with an admission rate of only 418 23 per 1000 and a discharge rate of 4 47, the *death rate* however, was 6 26 per 1000 A table of the rates for death and discharge (i e, invaliding) in the army of the United States compared with the armies of other Powers shows that the American death rate in 1911 (4 72) was higher than that of any of the other armies noted—viz British (in the United Kingdom) 2 42, French, 3 75, *Prussian*, 1 78; *Bavarian* 2 26, *Spanish*, 3 71, Russian, 4 07, Japanese, 3 57 The discharge or invaliding, ratio (15), on the other hand was lower than that of any other army except the British (11 07), the other ratios are French (35 34) Prussian (41 1) Bavarian (49 3) Spanish (44 2), Russian (41 7) Japanese (26 94) [illegible] refer to 1909 For the British [illegible] ed In 1911 the British ratios [illegible] 78 invaliding discharges per 1000 Another interesting table shows the comparative prevalence of certain diseases in various armies Ty[illegible] fever caused 0 80 admissions per 1000 and 0 11 d[illegible] per 1000 in the United States army In the Br[illegible] army (at home and abroad, 1910) the admission [illegible] was 2 2, in the French army (1909) it was 2 95, the Spanish, 3 24, in the Japanese, 5 47; and in the Russian 5 6 per 1000, while in the Austro-Hungarian army *the ratio was only 1 3, in the Prussian 0 35*, and in the Bavarian only 0 21 per 1000 The typhoid death rate in the British army (at home and abroad, 1910) was 0 28 per 1000, in the French it was 0 47, Spanish, 0 82, Japanese 0 55, Russian, 0 78, in the Austro Hungarian, 0 20, Bavarian, 0 06, and Prussian *only* 0 03 *per 1000 Of the causes of* death in the American army tuberculosis comes first with a ratio of 0 52 per 1000 strength After this measles, 0 45, pneumonia, 0 32, organic heart disease, 0 29, typhoid *fever*, 0 11, *tertiary syphilis*, 0 11

Typhoid fever has markedly decreased within recent years among the troops in the United States There were 44 cases with six deaths in 1911, the ratios per 1000 being 0 76 and 0 10 respectively The corresponding ratios for 1910 were 2 42 and 0 17, and for 1909 they were 3 03 and 0 28 There was no epidemic prevalence, the greatest number of cases at any one station being five at Fort Logan, Colorado In the Philippines there occurred 12 cases (0 88 per 1000) with no death Antityphoid vaccination is now practised universally, the prophylactic being administered to all officers and men under 45 who have not had the disease or already received protection It is considered that immunisation by this means is a thoroughly practical measure, and its protective value only second in importance to vaccination against small pox. In the Philippine islands in 1910 there had been 31 cases *among American troops with 2 deaths*, and 13 among native troops with 1 death In 1911 there were 12 among American and 12 among native troops with no deaths A large number of the American troops had been immunised, but none of the natives Hence probably the reason for the greatly reduced incidence among the former, while *among* the latter *there was no obvious improvement* Typhoid prophylaxis is now also compulsory in the United States Navy

Venereal diseases unfortunately, show no decrease in 1911 compared with the previous year, in spite of the efforts made to instruct recruits, to prevent exposure to infection, and to prevent infection after exposure The admission ratio was 185 13 (compared with 174 95 in 1910) and the constantly sick rate 10 14 (compared with 11 51) Gonorrhœa and chancroid have diminished but the number of syphilis cases has increased owing to the use of the Wassermann reaction which has revealed the syphilitic nature of many cases not previously recognised Prophylactic measures have been energetically carried out by means of the Slee *tube (calomel ointment and solution of argyrol or protargol), or by means of a disinfectant ointment (calomel phenol* and camphor) devised by Colonel L. M. Maus In certain areas "physical examinations" were made of all unmarried enlisted men fortnightly with the view of detecting venereal disease The preventive measure most advocated by army surgeons is that known as the "hospital method" this consists in a thorough cleansing after exposure to infection, with injection of argyrol or protargol, carried out at hospital by one of the hospital staff At Jefferson barracks it was found that only 15 infections occurred among 1675 prophylactic treatments, indicating a degree of *protection greater than* 99 *per cent* The opinion both of commanding and of medical officers is almost unanimous in favour of punishment and stoppage of pay in venereal cases The Secretary for War concurs in this opinion and recommends legislative action to carry it into effect Congress has now enacted that absence from duty "on account of disease resulting from intemperate use *of drugs or* alcoholic liquors or other *misconduct*" shall entail loss of pay for the period of such absence This stoppage of pay will, it is believed, do more than anything else to lessen the venereal rate in the army Malarial fevers continue to decrease steadily in prevalence In 1907 the admission rate was 31 per *1000* for white troops, *in* 1910 it was 17, in 1911, 15 47 In 1902 the ratio was as much as 96 per 1000 Fort Washington had the highe[illegible]t admission rate in 1911—viz, 333 per 1000 The post is surrounded by dense brush and timber, and continuance of [illegible] table unless vigorous measures are [illegible] n of the surrounding country [illegible] prevalent in 1911 than in the [illegible] 89 admissions per 1000 and [illegible] tios [illegible] 0 25 [illegible] The loss by discharge from [illegible] 2 85, compared with 4 01

Vancouver barracks at Washington showed the high admission rate of 21·96, exceeded only by the stations of San Francisco (41·20) and Fort Bayard, New Mexico (64·00). At this latter station there is a special hospital for the treatment of this class of cases, which appears to account for the high admission rate of the post. For alcoholism the admissions were 20·31 per 1000, a material improvement on the preceding year, when they numbered 23·51, and a lower ratio than in any year (except two) since 1870.

In regard to sanitation, it is noted that to each divisional headquarters a medical officer has been asssigned as "sanitary inspector" to assist the chief surgeon. The institution of a fortnightly "physical inspection" of the troops is also an important measure. The inspection includes examination of the teeth, of the body and clothing, of the feet and footwear, and in addition the detection of venereal diseases. The service cap that has been in obligatory use is of such a pattern that the top of the crown fits directly on to the head: it is therefore obviously unfit for use in hot climates, and in consequence of medical recommendations the wearing of the campaign hat has now been authorised during very hot weather. As the result of inquiries and trials by a board, presided over by Major E. L. Munson of the Medical Corps, a new pattern of shoe (by which, we presume, is meant boot, in our phraseology) has been evolved, which is stated to be most satisfactory; hitherto the supply of shoes of each size and width has not been sufficient at the various army posts to enable company officers to fit their men properly; also, it appears that recruits have been furnished with only a single pair of boots on enlistment. This defect has now been remedied. An interesting observation is recorded by Major Ashford as to the occurrence of uncinariasis at Porto Rico. Fifty men were found to have ground itch as the result of a single practice march. Microscopic examination of fæces was made immediately, and ova of uncinaria were found in 30 cases; the remaining 20 men were examined every ten days thereafter until ova appeared, as happened in 18 cases. None of these men had exposed their bare feet to infestation, but all were undoubtedly affected by muddy water, which had percolated through their shoes and leggings. There would seem to be no preventive but the wearing of rubber boots, which would be impracticable.

The improvement in the health of the troops in the Philippine Islands continues; there was, however, an admission rate of 1218·24 per 1000. The average constantly sick rate was 43·15, slightly lower than in 1910, when it was 45·45. The chief causes of sickness were venereal diseases (305 admissions per 1000), dengue (115·9), and malarial fevers (75·56). As a result of change in dietary beri-beri has practically disappeared from among the native troops. In 1908 the admission rate was 121·5 per 1000; in 1909 it was 103·9; in 1910 it dropped to 11·0, and in 1911 it was 0·57 per 1000; there were only 3 cases. The Tropical Diseases Board reported in 1911 that the neuritis-preventing principle of the rice extract must be contained in that portion of the solids which is dialysable; is soluble in water, in 95 per cent. alcohol, and in 0·3 per cent. hydrochloric acid; is easily decomposed by heat, and possesses a strong affinity for bone black. The same or a similar substance is contained in a decoction of white beans. In a report of January, 1912, the Board states that this principle is not phosphorus, is insoluble in ether, is absorbed by animal charcoal, and cannot be removed from the charcoal by maceration with water, absolute alcohol, or ether. Fifteen nursing infants suffering from the disease (as were their mothers) were treated with 20 drops of an extract of rice polishings every two hours while awake. "The results were truly marvellous. Improvement is immediate. The vomiting stops in 24 to 36 hours. The child, who has not passed any urine for several days, urinates five or six times freely. The œdema disappears in the course of a few days. ...... It can be said that this extract is a 'cure' in the true sense of the word, just as lime juice is a 'cure' for scurvy." It has been known for some time that the ultra-violet rays of the spectrum kill bacteria in a few seconds, and water sterilisers on this principle have been constructed by the Westinghouse Cooper Hewitt Company, of London and Paris. Recent experiments by the board show that these rays also destroy amœbæ, whether motile or encysted, and balantidia; and further tests of the practicability of using these radiations in water sterilisation are being carried out. Experiments on the fineness of mesh necessary to keep out mosquitoes showed that 16 mesh netting kept out all malaria carriers in the Philippines, but did not keep out stegomyia calopus, an extremely annoying species and a potential source of danger in case yellow fever should be introduced into the archipelago. Many other topics of interest are dealt with in this report, which is of great value to sanitarians and epidemiologists. It is most admirably printed.

ARCHIVES DE MÉDECINE ET PHARMACIE NAVALES

In the January number is a long and interesting account of the explosion in the *Liberté* at Toulon on Sept. 25th, 1911, from the pen of Dr. Gazeau, apparently principal medical officer of that fleet, a deputy surgeon-general. On the day in question, at about 5.30 A.M., several muffled explosions were heard by the fleet in the fore part of the *Liberté*, and smoke was seen coming from the port fore casemate, soon replaced by flames. There was at first a panic on board as the wounded came groaning from below, but this ceased when the men were sent to fire stations, and some who had gone overboard swam back to the gangways and climbed inboard again. Boats were sent from other ships, but as the fire was not got under it was obvious there would be another explosion. The pumps of the *Liberté* were put out of action by the explosion, and the chief petty officers, who were struggling with the flooding valves, died suffocated at their posts. The second explosion came at 5.53. The upper works of the great ship opened and lifted, a column of smoke and fire shot up to the sky and a pall of smoke fell back and for a few moments hid the disaster from the fleet. Not that they had time to gaze merely; 83 of their own people had been killed and 164 wounded by flying scraps from the *Liberté*, or were drowned or struggling in the water by the ruin of their boats, and these had to be rescued. The wounded were looked after by the medical officers on guard (four are mentioned in a fleet of 20 ships), and were then sent to the Naval Hospital, St. Mandrier. The injuries of the men of the *Liberté* were remarkably uniform, mainly contusions of the head. Apparently, as the decks were burst up by the explosion, those standing on them were thrown violently against the deck above and so got the contusions. Then they ran the risk of suffocation or of drowning when thrown overboard in a state of shock. After fractures of the vault, the most frequent class of injury was burns, and then fractures of the limbs. Many suffered from multiple injuries. One man was found still alive in the wreck of the *Liberté*; to free him from the wreck it was necessary to amputate his foot which was jammed between two pieces of iron, but he died from fracture of the skull when on the way to hospital. The bodies were very carefully identified; those that could not be removed were injected with formalin and covered with a lime paste. The last to be removed, five months later, was then able to be identified. A quartermaster of the *Foudre*, with a small wound of the back of the right chest, died with purulent pleurisy, and at the necropsy a rivet was found on his liver with pieces of his shirt and jersey. No case of carbonic oxide poisoning was reported amongst the injured, nor any of intoxication by other products of combustion of nitro-powders.

THE MILITARY SURGEON.

In the *Military Surgeon* (Chicago) for March Captain L. C. Duncan gives an account of the work of Letterman, who is held in honour in the army of the United States, as Larrey in the French service. Letterman appeared on the scene in July, 1862, as McClellan's principal medical officer. Armies had become too large to be managed on any system developed from the regimental. The medical system was regimental and was discredited. The wounded from Bull Run in July, 1862, had remained, some of them, three days on the field without food or shelter. There was no medical organisation behind the regiment. Letterman saw where the mistake lay, took their ambulances away from the regiments and gave them to the ambulance corps, whose business it was to collect the wounded and take them to the field hospitals he also established. In December, at Fredericksburg, by the new system 10,000 wounded were taken off the field in the first night. Letterman's predecessor gave a most ridiculous but instructive opinion on regimental hospitals, which he considered just the thing unless the army were on the march or in battle. In other words, he preferred the organisation he knew to be only fit for peace time and did not prepare for the needs of war as one would have expected. Captain A. G. Love, Medical Corps, U.S. Army, shows the rapid decrease in enteric fever in the army in India, which he ascribes to antityphoid inoculation. Theirs, in the United States army, is, he nevertheless states, more effective, as they use an agar, not a bouillon, culture, and inject patients thrice, not only twice. (It is interesting to note that Captain A. H. Hayes, R.A.M.C., discussing these same figures,[1] ascribes the fall in enteric fever rates (1) to antityphoid inoculation; (2) to sanitary administration; but (3), and above all, to the segregation of enteric convalescents at Naini Tal and Wellington.) An excellent article on armies, and the medical officers' work, by Lieutenant-Colonel W. B. Banister, Medical Corps, U.S. Army, will repay perusal.

THE MEDICAL MANŒUVRES IN INDIA.

The *Allahabad Pioneer* and other prominent Indian papers commenting on the recent medical manœuvres held at Rawal Pindi under the direction of Lieutenant-General Sir James Willcocks, commanding the Northern Army in India, draw attention to the great need of the army in India for trained and disciplined *dhoolie* bearers. In order to complete the bearer *personnel* of *one* division alone, some 600 hired coolies had to be collected from the Rawal Pindi bazaars; and, as might have been expected, they were in no way fitted either physically or otherwise for their duties. Some of them deserted at an early stage of the manœuvres, while when a deluge of rain fell on the third day of the operations the men told off to two Field Ambulances vanished altogether. The experience thus gained was a very valuable one, and it is obvious that proper measures will have to be taken by the military authorities to remedy this grave defect in organisation that has been disclosed The case of this one division is typical of what would happen with the whole ten divisions of the Indian army, and we cannot run the risk of Indian Field Ambulances being stranded in the field for want of bearers to carry the sick and do other duties. The Army Bearer Corps will have to be expanded and put on the proper footing it had when Colonel D. Shearer initiated it under the orders of Lord Kitchener.

THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM.

Among the recipients of the Service Medal of the St. John Ambulance Brigade at a special meeting of the Chapter-General of the Order of the Hospital of St. John of Jerusalem, presided over on April 22nd by the Grand Prior, the Duke of Connaught, were District Surgeon E. B. Pooley, Corps-Surgeon and Superintendent J. Broomhead, and Corps-Surgeon R. Clegg.

Correspondence.

"Audi alteram partem."

THE GERMAN MEDICAL STUDY TOURS.

To the Editor of THE LANCET.

SIR,—The following communication from the German Central Committee, which organises tours abroad for purposes of medical study, has been addressed to me as President of the General Medical Council. I shall be obliged if you will give it publicity, and I express the hope that the medical authorities and the profession generally may be prepared to offer a welcome to our German brethren when in August they visit the localities mentioned.

I am, Sir, yours faithfully,
London, W., April 21st, 1913. DONALD MACALISTER.

[ENCLOSURE.]

"The German Central Committee for Medical Travel has the honour to inform you that the programme for this year's tour, in connexion with the meeting of the International Medical Congress in London, includes visits to England, Scotland, and Ireland. The following places will be visited: London, Scarborough, Leith, Edinburgh, Aberdeen, Stornoway, Oban, Glasgow, Belfast, Dublin, Jersey, and Guernsey.

"In intimating this visit, we would add that the German Medical Study Tours, which have now been in operation for 13 years, and in which over 3000 German and other practitioners have taken part, are intended to subserve purely scientific purposes.

"We request you, therefore, as President of the General Medical Council, to be good enough to further our objects by informing the profession of our intended visit, in order that in the various localities indicated we may have the privilege of access to, and inspection of, universities, hospitals, hygienic and philanthropic institutions, sanatoria, &c.

"We send a copy of our constitution and list of members, from which you will gather the composition of our committee.*

"With thanks in advance for your kind coöperation and with the expression of our distinguished regard,

"I am, very sincerely yours,
"Sanitätsrat Dr. A. OLIVEN."

* Presidents: Professor Dietrich (Berlin), Professor Glax (Abbazia), Professor His (Berlin), Professor von Strümpell (Leipzig). General secretary: Dr. A. Oliven, 134B Potsdamer Strasse, Berlin W. 9, to whom inquiries and invitations should be addressed.

THE ROYAL COMMISSION ON UNIVERSITY EDUCATION.

To the Editor of THE LANCET.

SIR,—In your very able leading article of to-day on the Report of the Royal Commission on the University of London you say: "They propose no concentration into two or three institutes of instruction in anatomy, physiology, and pharmacology, recognising the obvious advantages of training the medical student in these early professional subjects at places where he is in touch with clinical and pathological work."

I read the report rather differently, for Section 279, which deals with this part of the recommendations, definitely states that the "intermediate medical sciences should be in close connexion with the medical college," at which clinical instruction is given. Inasmuch as elsewhere the report contemplates the selection or foundation of three centres at which clinical instruction will be given, it seems obvious that there will also be three centres for the teaching of the intermediate subjects and we are expressly told in the same section that two of these centres "must for the time at least" be University College and King's College.

While it is true that the new scheme does not entail the separation of intermediate from clinical teaching, it does seem to revive in the most definite way the three-centre policy of concentration as it affects intermediate teaching, and reasserts the claims of University and King's Colleges, which, in the opinion of the late Sir Henry Butlin and many other supporters of the original scheme for concentration, really wrecked that scheme. Sir Henry Butlin very clearly stated the position in his evidence (Third Report, p. 276). When it became clear, in 1906, that University College and King's College were to be two of the three centres contemplated for the teaching of preliminary and intermediate subjects—

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Because the schools objected to being forced to give up to two competing rivals a number of their best students, they are accused by the Commission of "jealousy" towards King's and University Colleges. The charge reminds one of the ancient couplet—

Le chat est un animal méchant,
Quand on l'attaque il se défend.

The *méchanceté* of the schools is certainly not likely to decrease when they learn that the despoiling of their advanced students is to be added to the despoiling of their intermediate students, and that their present representation on the Faculty of Medicine, by which they have been able in the past to defeat this particular encroachment, is to be taken away while being reserved for the collegiate teachers.

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[1] Journal of the Royal Sanitary Institute, March, 1913, p. 118.

The report invites criticism on many other points: I select this one issue because your scrupulous fairness and impartiality lend authority to a statement which I do not think can be sustained by reference to the report. Intermediate teaching is to be sequestrated from all the schools except University College, King's College, and one problematic and unnamed third school, if this Commission has its way, I am, Sir, yours faithfully,

London, W., April 19th, 1913. E. GRAHAM LITTLE.

THE MEDICAL PROFESSION IN INDIA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of March 8th you have in a leading article commented on the relations between the Indian Medical Service and the non-official practitioners of India, and your conclusions are frankly dependent on the views of a Special Correspondent who is "intimately acquainted with the facts." If I can show you that his "facts" are often incorrect and his implications as frequently unfair, I trust you will feel at liberty to reconsider your views. I propose to deal with that part of the service in which I am working, not because I believe that the case there is any stronger than it is in other parts, but because I can give you facts regarding it at first hand. I trust that you will accord to my communication an equal publicity to that given to the remarks of your Special Correspondent.

He divides the ordinary run of I.M.S. officer in civil employ into district surgeons and civil surgeons, and is indeed at some pains to prevent their being confused. This is his first inaccuracy. The whole of British India is divided into districts, and each district contains in the vast majority of cases one I.M.S. officer only. In Madras he is called the "district medical and sanitary officer," and over the rest of India "the civil surgeon." These are merely different names for officers performing the same duties. There are in Rangoon two civil surgeons, who are, I believe, practically presidency surgeons, and there are a few cantonments in which an officer in military employ is given the title of civil surgeon; but apart from these I know of no instance where the civil surgeon is not in charge of a district. This error does not imply an intimate acquaintance with the facts.

The second matter on which no man "intimately acquainted with the facts" would make an error is in stating that the usual fee in India is Rs. 15. Certainly over the whole of the north of India it is invariably Rs. 16.

The third matter is an omission, and a serious one in face of the statement that the medical cost of a lengthy illness is not inconsiderable. I refer to the system taken advantage of by most Europeans and some Indians of paying a fixed yearly sum to the civil surgeon for the care of their families, whether well or ill, a form of insurance which is usual and which entails no hardship on anyone.

This leads naturally to the fourth mis-statement, made and repeated—namely, that families of Government servants are in certain cases entitled to the free services of the civil surgeon. Civil Government officers are not entitled to the services of any medical officers for their families, though military officers are; so that the affecting picture of the official paying in disgusted silence the reluctantly attending civil surgeon in order to induce the latter to give more willingly a service to which the former is entitled as a right for his family is entirely a work of imagination. This, however, does not make the implication any the less galling, even though it is accompanied by the obviously false imputation that the official in India is not sufficiently honest to see anything dishonourable in drawing a hugely inflated travelling allowance toll.

Fifthly, we come to another affecting picture—that of the subordinate who is not entitled to the services of the civil surgeon, but requires them, pays for them, and is silent. The sting is in the word "silent." It implies that there is something underhand about the proceeding. Of course there is not. Is the civilian doctor, who is, we are told, going to replace the service officer, going to treat for nothing any but those entitled to his services? Of course not. The position is precisely that which obtains in England: there is always the hospital for those who cannot pay, and where the civil surgeon may be consulted by the poorest. As a matter of fact, hospital abuse is becoming a very serious factor in India, and is a matter on which the independent medical practitioner of India has a very real grievance against hospital officers, although your correspondent gives no indication of the fact.

Sixthly, it is necessary to speak plainly on the matter of colour. Your correspondent imagines that the white population will not be averse to a stationary civilian surgeon. Obviously, if the independent profession is to be local, this officer will in nearly every case be an Indian. You may or may not sympathise with it, you may or may not understand it, but you cannot ignore the intense repugnance with which the European in India views the suggestion that his wife should be examined and conducted, let us say, through a confinement by an Indian. The matter introduces far-reaching political questions on which I have no intention of touching, but I have had to introduce it in order to give your correspondent's suggestion a flat contradiction.

Seventhly, we come to what is really the crux of the whole matter. I refer to the two statements which supplement and explain one another—namely, first, that the interests of the I.M.S. and of the independent local profession are opposed to one another; and, secondly, that "it must be understood that he (the civil surgeon) acts in most cases as a general practitioner in attendance on the patient and not merely in a consultative capacity to his subordinate." It is no use my giving merely a direct denial to this statement; it can only be controverted by facts, and there is no possible way of presenting these except by giving a personal experience. The station and district of which I am civil surgeon is acknowledged to be a "good" one. I divide my patients into two sets, European and Indian. To Europeans I frankly act as a general practitioner; and were I not a medical man I should strongly resent any suggestion that I and my family should be treated in any other way. My practice among Indians is, as practices outside the Presidency towns now go, a "good" one, but in spite of this fact I have seen, since I came here about 17 months ago, three Indian patients, and three only, to whom I have not been called as a consultant by a member of the independent local profession. All these cases had come in from the district urgently ill, and obtained my advice before calling in one of the general practitioners of the town. I did not see them again except in consultation. With the exception of these three visits and of the household of a Government ward, who has been placed by Government directly under the care of the civil surgeon, I have not seen an Indian here except in consultation. My practice among Indians depends entirely upon my being called in by members of the independent local profession, either at their own instance or at that of the patient or his friends, and I may add that any reduction of my usual fee is entirely at the discretion of the practitioner who calls me in. I absolutely deny any opposition in interest between myself and the members of the independent local profession. I absolutely deny that "their efforts at private practice are frustrated by the existence of the subsidised private practitioner of the Government" as represented by myself. On the contrary, I merely provide them with the consultative aid which they wish, and which both they and their patients have every right to get. To refuse to the sick and to their medical attendants consultative aid from one who is in nearly every district marked out by experience and qualification as the person best able to give it, would surely be an act of folly and one which would be strongly resented by the very people whom it is supposed to benefit. It would seem that your correspondent is disposed to look on the improvement of the local independent profession as an end, and not as merely a means, towards the betterment of the lot of the sick Indian. Would anyone in England seriously suggest that the public should be debarred from the advantage of the experience gained by the physicians and surgeons of our great British hospitals, unless they be hospital patients? You cannot justly suggest that conditions should be different in India.

If the facts I have given were singular they would have no value. I am only, however, one of many in precisely similar case, and I have merely brought in those personal matters as being the only way of showing that your correspondent most decidedly is not "intimately acquainted with the facts" He has not been fair to the Service either in fact or in implication If the I M.S officer is debarred from private practice his suggestion obviously is that you will get an equally good man as a consultant If the matter is reasoned out it comes to this Is it to be expected that you will get the same professional standard from a man who is to be dependent entirely on the fees now made by the civil surgeon, as from one who has both his pay and fees to live upon? One can scarcely expect to get in the future an article of equal value for from half to one third of the cost now paid As a matter of fact it would not suit those who want later to replace the Indian Medical Service officer as civil surgeon to have the right of private practice now taken away from the civil surgeon.

Your Special Correspondent is not only inaccurate, but he is also ungallant, for he has entirely omitted all mention of the ladies In this part of India the purdah system is dying, so far as doctors are concerned. The lady doctor is nearly always in direct competition with the male, except in the matter of obstetric and gynæcological work, and even here the man is coming in so rapidly that the woman's monopoly will, in my opinion, be broken by the time that the next generation has grown up Possibly to his ignorance in other matters your Special Correspondent adds that of the fact that the suffragette has not yet invaded India, so that he has covered his rudeness to the ladies by taking refuge behind the purdah of anonymity

I am, Sir, yours faithfully,
Clayton Lane, M D Lond ,
Berhampore Bengal April 2nd, 1913 Major I M.S , Civil Surgeon.

THE POSITION OF ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

To the Editor of The Lancet.

Sir,—Your anonymous correspondent who signs himself "Reform," writing in The Lancet of April 12th on the above subject, states that "in nearly all asylums even a minor operation requiring an anæsthetic is performed by an outside surgeon specially employed" He adds that "in few asylum infirmaries is there any trained nursing as ordinarily understood," and he emphasises the disadvantages generally of asylum service owing to the "infrequent vacancies for superintendents" Whilst deprecating the tone of "Reform's" letter may I quote an extract from my report of last year relating to the Claybury Asylum to the committee of the London County Council responsible for its administration. It is as follows "Of the medical officers who have served here, seven are medical superintendents of asylums in England and Wales (I might add, with salaries commencing at from £500 to £1000 a year, and a pension after so many years' service or attaining the age of 55 years) and of the other officers six are clerks or stewards or both eight are or were matrons of other institutions five of them being in the London County Asylums In addition, there are many of our staff enjoying high promotion in at least five other places at home and abroad" In addition to the above medical officers there are several enjoying lucrative private practices, and tasting prosperity both at home and abroad Although this is a satisfactory record it is not the best, as one other of the London Asylums boasts of even a greater success for its assistant medical officers During last year which is the twentieth year of the history of the asylum, the following operations were performed by the medical staff of the institution (1) An operation for the relief of traumatic epilepsy by trephining the skull at the site of a scar over the left frontal area (the patient later was able to be transferred to his friends in Australia), (2) for the relief of strangulated hernia, (3) a similar operation upon a male patient aged 82 years, (4) for symptoms of internal strangulation, (5) for chronic periostitis of the femur; (6) for the excision of extensive tubercular glands in the neck, (7) for a troublesome double inguinal hernia with occasional symptoms of strangulation, (8) for a volvulus of the sigmoid flexure, (9) for cataract, (10) for inguinal colotomy to relieve a cancerous stricture which gave her eight months of life in comparative comfort, and (11) for internal strangulation caused by a band Only one operation, and that for prostatectomy, was performed by an "outside" surgeon. In addition to the above, there were many minor incidents requiring either a local or a general anæsthetic As to the "monotonous leisure," several of my younger colleagues have taken their M B, M D, and F.R C S degrees or diplomas, and one obtained a gold medal at his M D thesis during this monotony.

The greatest enemy to any institution is "the idle man" whom the sage of Chelsea described as "the one monster in the world" I consider that a short experience of life in a large institution is the most useful service that any young practitioner can experience It teaches him the usefulness of "give and take"—the man of compromise in the long run gets most of his own way—the necessity for method, the value of organisation, the great importance of moral treatment, the therapeutic value of various remedial agencies perseveringly administered He can investigate morbid phenomena under conditions rarely met in "outside" practice, and he can engage in research connected with the body or the mind in a way that will not only interest him but will recompense him for his study and observation If medical officers, as they do in my experience devote themselves to the better training of their nurses asylum infirmaries should become places where the best treatment and the best work can be seen, work which is destined to become more appreciated than has been the case in "Reform's" experience I agree with the writer that the service should be improved in every way possible, and a paper read before the Medico Psychological Association recently by Dr J B Spence aims at efforts in this direction In the meantime, I trust the best men will not be discouraged from entering asylum service by the pessimistic record of your anonymous contributor

I am, Sir, yours faithfully,
Robert Jones, M D Lond
Claybury Asylum Woodford Essex April 15th, 1913

To the Editor of The Lancet

Sir,—Dr F R P Taylor seems to have been fortunate in his lengthy experience of asylums but many of his statements would appear to merit a somewhat closer examination It is quite true that the assistant medical officers give lectures to the staff on their general duties, and a man's personality and abilities may do much The female staff, however, are mainly recruited from the domestic servant class and the male staff from agricultural labourers, ex privates in the army &c Most excellent people, indeed, but often very deficient in the preliminary education so necessary if they are to benefit from instruction in nursing The population of an asylum is, in the nature of things, largely a healthy one, and junior medical officers in the larger institutions, when not in charge of the infirmaries, see little serious illness in many of the sections The infirmaries are organised for dealing with the sick, and it is there they go, and properly so from every point of view, except that of the man looking for experience that may be useful afterwards I am sure Dr Taylor has seen occasional operations performed by the staff Such opportunities do not occur three times a year, and therefore what use are they as a training? Midwifery is practically non existent, and infectious disease, with the exception, perhaps, in some places of colitis and an occasional phthisis case, is infrequently seen Greatly to the credit of the management a serious accident is one of the rarest things imaginable Is this a training for a general practitioner? Does the study of the mental peculiarities of his patients compensate him for the time spent away from the real work of general practice, and in spite of his access to a laboratory, if it is his intention not to continue lunacy work would he not be better employed either in the wards of a general hospital, Poor-law infirmary, or assisting a senior man in general practice? I can only repeat what I said before, that lunacy work has little reference indeed to general practice and is a very poor training for it

I am, Sir, yours faithfully
Reform.
April 18th, 1913

To the Editor of The Lancet

Sir,—I quite agree with the remarks made by "Reform" All assistant medical officers are not so fortunate as Dr F R P Taylor, who evidently has been encouraged to work I myself was in one of the Metropolitan Asylums Board asylums for nine months. There were three assistant medical officers, and surgical work was discouraged. One example is sufficient. A patient on the female side had a strangulated hernia, and the senior assistant medical officer and myself decided to operate. The medical superintendent was present. A general anæsthetic was administered, and I attempted to reduce by taxis; that failed. Everything was ready, and I asked the sister for a scalpel. The superintendent would not allow me to proceed further. He admitted that he could not operate himself, but thought I was too young, so to save the situation he called in an outside doctor. The doctor came in about seven hours, and after a "consultation" with the superintendent deemed it would be unwise to operate, as the patient was just dying. The patient lived for 36 hours after that.

Naturally the whole proceedings were revolting to me, and I did not remain longer in the service than I could help, neither did the superintendent encourage me to remain.

I am, Sir, yours faithfully,
April 19th, 1913. SYMPATHETIC.

MEDICAL OFFICERS OF HEALTH (SUPERANNUATION) BILL.

To the Editor of THE LANCET.

SIR,—From all parts of England and from the north of Scotland replies to my letter in THE LANCET of April 12th have reached me. Every one of them strongly urges the necessity of including in the Bill school medical inspectors and tuberculosis officers. Widespread discontent with the remuneration at present offered, especially to school medical inspectors, is almost invariably commented on in these replies. Those who have written have also brought the Bill to the notice of their Members of Parliament.

I have sent the appended letter to Sir Philip Magnus (presenter of the Bill), Sir Henry Craik, Mr. Lough, Mr. Charles Bathurst, Sir Henry Norman, Mr. Godfrey Locker-Lampson, and Mr. Glyn-Jones, supporters of the Bill:—

I have the honour to request your attention to, and consideration of, the following amendment, which, I hope you will see, has a strong claim for insertion in the Bill during the Committee stage.

Amendment:—

That the words "Medical Officers of Health" in the title and throughout the Bill include "School Medical Inspectors and Tuberculosis Officers."

Reasons:—

(1) Medical Inspectors and Tuberculosis Officers have salaries ranging on the average from a fourth to a half of that paid to Medical Officers of Health.
(2) Being whole-time officers they are precluded from augmenting their salaries by engaging in other work.
(3) About 3 out of every 4 Medical Inspectors and Tuberculosis Officers will not receive promotion from their present position because their numbers are so much greater than those of Medical Officers of Health.
(4) They form the junior branches of the Public Health Service.
(5) All the arguments adduced in the Bill in favour of Public Health Officers apply in the case of Medical Inspectors and Tuberculosis Officers.

A copy has also been sent to the Secretary of the Society of Medical Officers of Health, to the Secretary of the British Medical Association, and to Dr. Addison.

I am, Sir, yours faithfully,
ALEXANDER GRAHAM,
West Ham, E., April 21st, 1913. School Medical Inspector.

PROFESSOR BIEDL'S TREATISE ON "THE INTERNAL SECRETORY ORGANS."

To the Editor of THE LANCET.

SIR,—I should not have deemed it necessary to reply to Professor Biedl's letter in your issue of April 12th were it not that the whole transaction contains a lesson both to translators and publishers, of which they will do well to take heed.

The facts related in my letter which appeared in your issue of April 5th are not in dispute. Professor Biedl now supplies some further facts, from which your readers are apparently intended to infer that I undertook to do the translation, and failed to make good my undertaking. This is not the case. The English publishers asked me to translate the book into English. To this I replied that I had no time for such an undertaking, and referred them to Mrs. Linda Forster, who by her translation of Professor Max Braun's "Handbook of Practical Parasitology" (Bale and Sons, 1910) and other foreign scientific works had proved herself a careful and accurate translator with a lucid and agreeable English style. Mrs. Forster consented to undertake the responsibility on the condition that she might seek my opinion on doubtful points; and to this I agreed.

Then followed the happenings which I recounted in my last letter; Professor Biedl's corrections, sometimes helpful, but more often hypersensitive, of the translator's rendering of the original text, but also, and far more frequently, his painstaking Germanising of her English; the translator's protest; the Professor's insistence; and, finally, the crowning discipline of reconverting the professorial corrections into idiomatic phraseology. In such circumstances it is not surprising that some mistakes should creep in. But then translators are notoriously unreasonable people; they have no sense of propriety.

Nor, seemingly, are publishers much better, as witness the behaviour of the English publishers in the matter of the preface. They begged me, these misguided people, to write a foreword to the English edition—an honour which, as in humility bound, in all humility I declined. In the end, however, by dextrous flattery of my vanity, soothingly applied in person by a member of the firm, I became so much puffed up with pride that I went so far as to sacrifice their interests by yielding to his solicitations. And blushingly I wrote that foreword.

Professor Biedl is doubtless quite right in his conviction that a translation of the original preface by Professor Richard Paltauf would have been of more interest to the English reader. That those responsible for the sale of the English edition should have been so benighted as to hold a contrary opinion is certainly not my fault. But then publishers, like translators, are curiously obstinate and wrong-headed people. To a grievous lack of all sense of propriety they add a lamentable ignorance of their own business. It is very deplorable. I am, Sir, yours faithfully,
Harley-street, W., April 18th, 1913. LEONARD WILLIAMS.

ABDOMINAL OBESITY AND ITS TREATMENT BY LOW-FREQUENCY OR LEDUC'S CURRENTS.

To the Editor of THE LANCET.

SIR,—In an article on the efficiency of the high-frequency currents combined with light baths in the treatment of obesity, which appeared in the *Annals of Electrobiology* in June, 1911, I remarked that obesity is more frequent in Egypt than elsewhere on account of climatic conditions and the sedentary and inactive lives of the upper classes. It is a very common spectacle in the streets of Cairo to see a number of men with extremely prominent abdomens, as large as, and even larger than, those of women in the later stages of childbearing, and for the most part the possessors of the bulk are proud of it, and if any remark is made on their appearance they answer that their stoutness is a sign of a strong constitution and flourishing health, and that nothing in the world would induce them to do anything to diminish it. But during the last few years, though very rarely, I have been consulted from time to time by corpulent patients concerning a treatment which would relieve their infirmity. I began first by applying vibratory massage, but was obliged to abandon it on account of the fatigue to which I exposed myself, as well as my assistant, before I had come to any conclusion as to its efficacy.

J. B., 45 years old, arthritis, neurotic, and for the past five years suffering from a dilated stomach, came to consult me on March 30th, 1911. The stomach could be traced below the umbilicus. The patient wanted to return to his home in Upper Egypt as quickly as possible, and could not follow a long treatment. I applied Leduc's currents with electrode cushions, as they are applied by Professor Doumer, at Lille. The length of each application was ten minutes, and the treatment was given daily except on Sundays. On the twelfth day, besides an amelioration of the stomach symptoms the patient had lost four kilogrammes, and his abdomen had so diminished in volume that his trousers were much too large.

Since then I have looked for the chance to put in practice in cases of obesity this method of treatment by current of feeble tension and perfect regularity, interrupted rhythmically and precisely. It seemed to me that it would be very efficacious.

My experiences, although not numerous enough to justify
any del
to me
follow t
further cases

1 G P, 28 years of age, corpulent, his abdominal girth being 1 10 metres (3 ft 8 in) came to consult me on August 1st, 1911 I applied low frequency currents at an intensity of 40 to 60 milliamperes, and obtained energetic contractions of the abdominal muscles without any unpleasant symptoms The treatment, which lasted 15 minutes, was given for the first six days consecutively, and afterwards repeated three times a week On the twelfth application the abdominal girth had diminished by 8 centimetres

2 A H 40 years old, corpulent, measuring 1 16 metres (3 ft 10½ in) in girth, began abdominal treatment by the Leduc's currents on August 8th, 1911 In ten succeeding days' treatment his abdominal perimeter diminished by 10 centimetres

3 M K, 55 years old, gouty, corpulent, weighing 105 kilos, with an abdominal perimeter of 1 2 metres (4 ft), began treatment by Leduc's currents on August 11th, 1911 At first he had ten uninterrupted applications, and afterwards received treatment three times a week On the twentieth application, which took place in the second week in September, 1911, his perimeter had been reduced by 12 centimetres —I am, Sir, yours faithfully,

Cairo, Jan 25th, 1913 Dr S C DAMOGIOU

VIVIPUNCTURE OR VIVISECTION?

To the Editor of THE LANCET

SIR,—Considering that all forms of experimental operation *upon the living animal are at present comprised* under the term vivisection and that the public makes no distinction between division of the tissues and simple injections, I venture to ask whether it would not be advisable to restrict the use of the word vivisection to the grosser operations and to introduce a new word for the slighter—which indeed constitute about 99 per cent of the whole I suggest the word *vivipuncture*, which is formed on the same lines as acupuncture It is true that the tables differentiate between the severe and the slight form, but the antivivisectionists do not, and it is important to hammer into the public mind that the vast *majority of experiments subject the animal only to* an operation which the human subject is always prepared to undergo himself, and indeed often demands

I am, Sir yours faithfully,

Ebury street S W, April 16th, 1913 RALPH W LEFTWICH

ROYAL MEDICAL BENEVOLENT FUND.

To the Editor of THE LANCET

SIR,—His Majesty the King was graciously pleased last year to confer on the Fund the title of "Royal" To celebrate this event it has been arranged to hold a dinner of those interested in the Fund and its Guild H R H Prince Arthur of Connaught, K G,
The dinner will take place
at the Hotel Cecil We h
complete success

It is not necessary to refer in detail to the work of the Fund, for this is fully set forth in the monthly reports of the cases relieved which you kindly publish in your journal The average *grants are at their best but small, yet, small as they* are, they are in many cases all that stand between the recipient and destitution The grants would be greater if the annual income from subscriptions and donations upon which they depend were increased Except for the working expenses, which are a little over 5 per cent, all that is received in the year from donations and subscriptions is expended upon the objects of charity, legacies being invested for the purpose of providing annuities The demands upon the Fund are heavy and constantly increasing Every little helps, and even small subscriptions are acceptable, for if every member of the profession subscribed only a few shillings a year the resources of the Fund would be largely increased, and much more could be done to relieve the poverty and distress than is at present possible

Though the Fund is mainly supported by members of the medical profession it has strong claims upon the general public also, for which the profession does so much with often a very inadequate return Medical men should therefore take advantage of every opportunity which might offer to press the claims of the Fund upon their grateful and well to do patients, who are often only too glad to know of a deserving charity which they can safely support

May we ask you to render another service to the Fund by publishing this letter

We are, Sir, yours faithfully,
JOHN TWEEDY, President
SAMUEL WEST, Hon Treasurer

Subscriptions and donations may be sent to the treasurer, Dr Samuel West 15, Wimpole street, London, W.

11 Chandos street, Cavendish square, W, April 23rd, 1913

QUIS CUSTODIET IPSOS CUSTODES?

To the Editor of THE LANCET

SIR,—I read with interest Dr J Walter Carr's letter in your issue of April 12th It would be interesting if he were to get his hospital colleague to make another blood examination under similar circumstances I have shown[1] that in patients affected with pulmonary tuberculosis there is a remarkable variation in the number of leucocytes from day to day, and even from hour to hour

A male patient aged 42, under Dr Hugh Walsham at the City of London Hospital for Diseases of the Chest, showed the following remarkable variation On the two days in question the patient—who had tuberculosis of upper lobe of both lungs—was kept strictly in bed, and his temperature was taken each time a leucocyte count was done

	Hour	Temperature	Leucocytes	
9/12/10	10 A M	97 1°	18 000	Right ear
	11 A M	98 1°	23 000	Left ear
	12 noon	98 1°	19 000	Right ear
	1 P M	98 1°	12 600	Left ear
	2 P M	98 5°	27 600	Right ear
	3 P M	93 5°	17 400	Left ear
	4 P M	98 2°	26 600	Right ear
	5 P M	98 5°	16 800	Left ear
			15 900	Right ear
	6 P M	98 5°	25 400	Right ear
			24 300	Left ear
	8 P M	98 0°	15 000	Left ear
			13 800	Right ear
	11 P M	96 8°	11 200	Left ear
			12 000	Right ear
10/12/10	8 A M	97 2°	11 600	
	10 A M	97 5°	12 200	
	11 A M	96 0°	14 500	
	12 noon	98 0°	13 000	
	1 P M	98 0°	18 500	
	2 P M	97 5°	15 200	
	4 P M	99 0°	19 000	

The blood was taken from the lobe of the ear, each ear being taken alternately but at 4 P M on 9/12/10 the leucocyte swing seemed to indicate inflammation of the right ear, so at 5 P M, 6 P M, 8 P M, and 11 P M counts were made from each ear, the one being a control for the other, yet the counts were the same from both ears, thus eliminating any fallacy due to inflammation

I am, Sir, yours faithfully,

Watford April 19th, 1913 THOMAS MARLIN, M D

A QUESTION IN LUNACY CERTIFICATION.

To the Editor of THE LANCET

SIR,—Will you allow me to point out that your correspondent Dr Robert Jones in THE LANCET of March 29th has mistaken my meaning, probably from careless reading he confuses the present and future tenses of the verb *to be* I took no exception to his statement "that reception orders signed by a justice not specially appointed *will be* invalid unless signed within 14 days by a justice so appointed" I simply pointed out that they *are* valid for a time, and that patients can be admitted on them and kept for 14 days, but I did not suggest that they could be detained longer unless the order were approved and signed by a judicial authority My desire was to point out to brother practitioners that private patients can be admitted on orders signed by any J.P., a knowledge of which fact may save them time and trouble.

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[1] Journal of Clinical Research May, 1912.

In defence of magistrates who may not be aware that they are "specially appointed," I may say that in some counties, notably in Durham, all the county magistrates are *ipso facto* "specially appointed," and this being done *en bloc* they may not have their special responsibilities pointed out to them. I do not see that I have "failed to comprehend the interpretation of a valid order," or that I have "walked into a pitfall of the Lunacy Act."

I am, Sir, yours faithfully,
L. HARRIS-LISTON.

Middleton St. George, co. Durham, April 12th, 1913.

IODOFORM INJECTIONS IN PULMONARY TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—I have noticed the inconveniences referred to by Dr. Frank Crosbie and also minor ones which for obvious reasons I could not mention in a short letter. If petroleum is omitted from the injections they are not attended by paroxysms of coughing, except in those who are highly sensitive to ether.—I am, Sir, yours faithfully,

Bournemouth, April 19th, 1913. E. CURTIN.

NATIONAL MEDICAL UNION.

To the Editor of THE LANCET.

SIR,—A meeting of the executive committee of the National Medical Union was held at 5, John Dalton-street, Manchester, on April 16th. There was a large attendance, and an important discussion took place with regard to the present position under the National Insurance Act as it affects those practitioners who have not taken service. Numerous inquiries which have been made by doctors all over the country with regard to membership were reported. Many of these had written to say that they had retired from the panel, and others expressed their determination to do so at the first available opportunity. For example, 12 men from the Salford area alone have notified that, having removed their names from the lists, they wish to join the union. A Huddersfield member stated that he knew of two instances in his district of the non-acceptance of "sickness certificates" given by non-panel men. He was requested to lay full particulars before the committee at its next meeting, with a view to action being taken in the matter.

The honorary treasurer reported that the finances of the association were in a satisfactory condition. It was decided that a general meeting of the union should be held shortly, arrangements for which will be made at the next meeting of the committee. A subcommittee was appointed to deal with the organisation of the Union with a view to concerted action in the future.

I am, Sir, yours faithfully,
J. WEBSTER WATTS,
Secretary.

Manchester, April 22nd, 1913.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—The following may be of interest to you. On April 1st a representative of the National Medical Guild had occasion to interview an official at the Insurance Commissioners' offices. The interview was arranged with regard to other matters, but in the course of conversation it transpired that the Commissioners were aware that certain Insurance Committees in the north of England were allowing "own arrangements" under the Insurance Act to be made with herbalists who had no sort of medical training. Allowing these arrangements means, of course, that the committees in question were prepared to pay for them.

On the same day a letter was sent from the National Medical Guild in which among other matters appeared the following sentence, viz.: "May I also state that I am informed that certain Insurance Committees in the north of England are permitting insured persons to make arrangements for medical treatment with herbalists and others not being medical men. May I ask whether this is legal, and if not, by whom and what action should be taken in the matter?" This letter was sent in order to obtain written verification of the fact.

On April 7th a reply was received from the Commissioners in which, again among other matter, appeared the sentence: "There is nothing in the National Insurance Act or the Regulations as to medical benefit which required that an insured person shall only be allowed to make his own arrangements for medical treatment and attendance on condition that these arrangements are made with a duly qualified medical practitioner."

On April 10th Sir J. D. Rees, M.P., asked a question in the House on the subject, which was as follows, viz: "Whether, under any section or subsection of the National Insurance Act or Regulations relating to such Act, the Commissioners will recognise and sanction the medical treatment of insured persons by unqualified individuals, such as herbalists and Christian Scientists; and, if so, whether, seeing that herbalists and other unqualified persons cannot administer anæsthetics, perform operations, treat fractures, or give death certificates, he will say why this class of treatment is recognised under the Regulations?"

Mr. Robertson replied for Mr. Masterman as follows (this is taken from the official Parliamentary report), viz.: "There is no provision in the regulations dealing specially with those cases, but, subject to the conditions therein prescribed, it is open to an Insurance Committee to allow insured persons to make their own arrangements instead of receiving medical attendance and treatment from a duly qualified medical practitioner on the panel."

Sir J. D. Rees then asked: "Can the honourable gentleman answer the question as regards the death certificates? How can Christian Scientists give certificates?"

Mr. Robertson replied: "It will rest with the Insurance Committee, if they are satisfied."

Putting the facts very shortly, they are as follows: We learnt from the Commissioners' Office that arrangements with "quacks" were being made. In reply to a letter they said there was nothing to prevent them being made. In the House of Commons they said the same.

We are, Sir, yours faithfully,
THE NATIONAL MEDICAL GUILD.

Villiers-street, Strand, W.C., April 14th, 1913.

To the Editor of THE LANCET

SIR,—Are members of the medical profession at last beginning to appreciate the unsoundness of the principles which underlie the insurance business in which they have allowed themselves to become partners? The capitation fee is none other than a premium to cover such attendance as an insured person may demand, when freed of more cost to himself; not simply what he actually requires because of illness or injury. There is no ruling that he may not clean his boots or weed his garden whilst demanding medical attendance.

A definite premium, payable in advance (usually annually), to cover a specified risk, is an integral condition of insurance as it is generally understood. We are forced to meet a portion of our risk first, and then receive a fractional part of our premium. And in case this is not sufficiently unbusinesslike, various fragments of this premium are to be sacrificed (ordinary mileage, &c.), and we are to be deprived of the remainder of the fee, when Providence has seen fit to remove certain of our patients during the year, if it happens before the last quarter. I am, Sir, yours faithfully,

WM. SPETTIGUE, M.B. Edin.

Wellington, Somerset, April 22nd, 1913.

To the Editor of THE LANCET.

SIR,—Your Special Commissioner on Medical Practice under the Insurance Act, in THE LANCET of April 5th, p. 989, quotes a remark of a Carlisle panel doctor which supports the gloomy prognoses as to the probable degrading effect of the Act on the scientific practice of medicine. The aforesaid practitioner congratulates himself on the fact that under the Act "we can treat the disease and not the people." Could anything more perniciously retrograde be conceived? Moreover, the Commissioners, who did not see their way to grant to the medical profession freedom from lay control because they were expending public money, and so were responsible for the way in which it was spent, now admit that this same public money may nevertheless be paid to herbalists and other quacks for "adequate medical treatment" such as the Act requires. Truly, beguiled by another Sinon, we *have accepted sacratâ arce a new monstrum infelix*, and even now—

> Inclusos utero Danaos et pinea furtim
> Laxat claustra Sinon.

I am, Sir, yours faithfully,

London, April 11th, 1913. PANTHUS.

THE GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

THE annual Congress of the German Surgical Association was held in Berlin from March 26th to 29th, Professor VON ANGERER presiding.

Tuberculosis of the Bones and Joints.

Professor GARRÉ (Bonn) gave a report of the definitive results of 2000 cases of tuberculosis of the joints treated by him during the past 19 years. He said that the choice between conservative treatment and the removal of the diseased parts by an operation depended partly on the seat of the affection and partly on the patient's age and social position. Tuberculous affections of the shoulder-joint were treated in the majority of cases by injections of iodoform, but in serious cases by resection according to Langenbeck's method. The cases treated conservatively became for the greater part ankylosed. The ultimate results of resection with regard to the restoration of function were better than *might have been expected, so that the indications for* resection should be extended. In the elbow-joint of children injection of iodoform and fixation were as a rule sufficient; in adults resection was preferable, the conservative treatment being less efficacious for such patients. Ankylosis followed resection in 50 per cent. of the cases. On the wrist-joint the results of conservative treatment were rather favourable. Resection should be avoided as much as possible; and when an operation became necessary only the affected parts should be removed. Coxitis ought generally *to be treated according to a conservative method* by plaster-of-Paris bandages, allowing the patient to walk, and by injections of iodoform into abscesses. In contractures a reduction must be tried, not forcibly, but by gradual extension. When the joint had then become painless a leather appliance was indicated; Hessing's splints had no special advantage. An attempt must be made to produce ankylosis. Resection should be reserved for cases in which no other procedure gave any ground for hope, because the results of resection were extremely unfavourable, one-third of the patients dying from tuberculosis, and only 50 per cent. of the remainder having a useful limb. In the knee-joint conservative treatment did not give a good result even in mild cases, for only 51 per cent. of the patients recovered, and most of them had an ankylosed joint; the results of resection were much better, as 92 per cent. recovered. In children resection was recommendable in *serious cases, because contraction was apt to follow ortho*pædic treatment. In the ankle-joint resection was performed in serious cases only, as conservative treatment generally gave good results. Abscesses were never opened by an incision but always by a puncture, and injections of iodoform were used. Radiotherapy had not been successful, because the rays were superficial in their action, and, moreover, exercised an injurious effect on the skin. Great attention must be given to general treatment, especially to life in the open air and to heliotherapy. Professor Garré made a reference to the brilliant results which had been obtained in Alpine climates, especially at Leysin, in Switzerland.

Dr. VULPIUS (Heidelberg) said that Alpine and seaside climates were not absolutely necessary for the successful treatment of tuberculosis, because fresh air and light could be obtained also elsewhere. He spoke in favour of special sanatoriums in which patients suffering from external tuberculosis could receive surgical treatment combined with physical and orthopædic remedial measures.

Dr. VON WRESZNIOWSKI (Czenstochau, in Russian Poland) explained his method of operation. He said that he made a wide opening so as to obtain access to the tuberculous focus; he then, after removal of all the affected parts of the bones and the soft tissues, plugged and fixed the joint. No sutures were inserted, so that at every change of dressing *the wound could be thoroughly examined and any new* foci of disease removed. The advantages of his operation were that the incisions healed up without the formation of fistulæ and that a useful limb remained; the drawback was the long duration of the treatment.

In the discussion Professor BIER (Berlin) recommended conservative treatment even in serious cases. He said that he avoided fixation, but used removable splints and passive congestion, and administered iodine internally in large doses. Under this treatment there was no formation of abscesses.

Professor DE QUERVAIN (Basle) said that he had seen excellent results in Alpine sanatoriums; the tuberculous lesions healed up without leaving fistulæ, and cicatrisation was rapid. In the Alpine sanatoriums operations were not often required.

Professor KÖNIG (Marburg) said that he had obtained good results by exposing the lesions to the rays of the mercury-quartz lamp, which might replace heliotherapy.

Professor WILMS (Heidelberg) said that Roentgen rays were efficacious, especially in affections of the upper extremity and of the glands. In patients giving a slight Pirquet reaction treatment by means of tuberculin was recommendable.

Dr. ISELIN (Basle) said that he had treated 367 patients by the Roentgen rays. Dry cases were less fit for this treatment than cases with profuse secretion. Spondylitis was a contra-indication, because deformity might arise from absorption, which was favoured by the X rays. Sometimes telangiectasia and ulceration developed even a year and a half after the Roentgen treatment.

Professor FRIEDRICH (Königsberg) warned surgeons against the too prolonged administration of iodine to children because of the damage which might be done to the ovaries and testes.

Duodenal Ulcer.

Professor KUTTNER (Breslau) said that he had collected 800 cases from his own clinical material and from that of other surgeons. The frequency of duodenal as compared with *gastric ulcer* was in the ratio of 3 to 5, but according to some authorities the ratio was more correctly stated as 1 to 3. The symptom of pain developing some time after taking food was not characteristic of the disease, as it might happen also in adhesions, cholelithiasis, ulcer of the stomach, and cancer of the stomach, and might be absent in duodenal ulcer. The presence of relapsing hyperacidity and intermitting motor insufficiency was of importance, and so were the results shown by Roentgen photographs. Some points of difference between gastric and duodenal ulcer were that in the latter the danger to life was greater, and there was less prospect of spontaneous recovery than in the former; at the same time, however, a development into cancer was less frequent in duodenal than in gastric ulcer. Internal treatment was of temporary effect only. Resection was not indicated unless cancer was suspected. Gastro-enterostomy with occlusion of the pylorus was the best treatment. Perforated ulcers must be operated upon as early as possible, and the perforation must be closed by the omentum; gastro-enterostomy must be performed at once when the condition of the patient allowed—otherwise it ought to be delayed until the subsidence of the urgent symptoms. Profuse acute hæmorrhage must be treated conservatively, but chronic hæmorrhage by operation.

Dr. VON DEN VELDEN (Düsseldorf) recommended for profuse acute hæmorrhage intravenous injections of hypertonic solutions of common salt. In chronic hæmorrhage gelatine injections were preferable.

Professor VON BERGMANN (Altona) drew attention to the connexion of duodenal ulcer with gastric neurosis. In 30 cases of ascertained duodenal ulcer local or general neurotic stigmata could be found, from which an affection of the visceral nerves could be inferred. The pains in duodenal ulcer were for the most part caused by spasm of the pylorus.

Dr. HAUDEK (Vienna) gave a description of the appearances fou [illegible] duodenal ulcer and said that [illegible] that the [illegible] gastric ul [illegible] of the diagnosis of duodenal ulcer; if clinically an ulcer was assumed, a normal finding made the presence of duodenal ulcer more likely than that of a gastric ulcer.

Dr. GUNDERMANN (Giessen) gave an account of attempts which he had made to produce ulcers in animals. By ligaturing the left branch of the portal vein he could produce in dogs numerous gastric ulcers, and in certain cases also duodenal ulcers. He considered that they were caused by toxic substances which in the normal liver cell were retained and destroyed, but were discharged when the liver cells were damaged. Ulcer of the stomach and the duodenum was, in his opinion, due to some imperfection in the function of the liver.

Professor FRIEDRICH drew attention to the connexion of diseases of the pancreas with those of the duodenum, a connexion which was observed in 6 out of 14 cases. In 3 of these cases cancer could be ascertained.

Professor SCHMIDT (Halle) said that in every case of hyperacidity it was necessary to look for an ulcer; there was a so-called "vicious circle" established between gastric ulcer and neurosis, the ulcer, however, being the primary symptom. Duodenal ulcer might heal up under internal treatment; it had been said that a healed duodenal ulcer was never seen in post-mortem examinations, but this did not prove anything, because the cicatrices were very difficult to find in the mucosa.

Cellulitis Attended with Evolution of Gas.

Professor MÜLLER (Rostock) reported a case in which resection of the knee-joint was followed by rapidly spreading gangrene attended with evolution of gas in the tissues and urgent toxic symptoms. He performed insufflation of oxygen into the subcutaneous tissue under high pressure, so that the skin from the knee upwards was inflated like a cushion. This was done three times within five days; on the tenth day an abscess formed in the gluteal region, and other abscesses followed, so that incisions became necessary, but the progress of the cellulitis was arrested after three insufflations and the severe clinical symptoms abated.

Treatment by Rhythmic Passive Congestion.

Dr. THIES (Giessen) recommended in the treatment of acute inflammation the use of passive congestion, established not in a continuous manner, according to Professor Bier's system, but in a rhythmical manner, so that between two congestions lasting for one or two minutes an interval of the same duration was interposed, and so on for as long as required. He had constructed an apparatus by which the rhythm could be regulated. The advantage of his method compared with permanent passive congestion was that it could be applied without interruption for many days, and that neither troublesome œdema nor pyrexia was produced.

Operations for Obstinate Constipation.

Dr. SCHMIEDEN (Berlin) said that in chronic constipation those cases were proper subjects for operation in which the seat and the cause could be ascertained. He gave clinical details of a case of extreme atony and dilatation of the colon with congenital extension of the mesentery. By Roentgen photography fæces were shown to be retained for days in the transverse colon. To remedy this condition he made a new passage by establishing a double anastomosis between the transverse colon and the bottom and the top of the sigmoid flexure.

(To be continued.)

PRESENTATIONS TO MEDICAL MEN.—At the Constitutional Club, Newton Abbot (Devon), on April 5th, Mr. Richard Henry Grimbly, M.R.C.S. Eng., L.S.A., was presented with a silver salver and soup tureen, suitably inscribed, as a mark of respect and esteem, on his relinquishing, after ten years' service, the chairmanship of the Mid-Devon Constitutional Club.—The members of the Bere Alston (Devon) parish council have presented Mr. Rowland Hill, M.R.C.S. Eng., with a framed illuminated address in recognition of his valuable services as chairman of the council for the past 12 years.—The members of the St. Breward men's branch of the Red Cross Society recently presented Mr. William Robert Newton Cole, M.D., M.Ch. R.U.I., of St. Tudy (Cornwall), with a silver mounted blotter, as a mark of appreciation for his services as lecturer to the class.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 1128.)

VII.—GLASGOW ACQUIESCING IN THE ACT.

The New Terms Readily Approved.

GLASGOW, like Carlisle, was from the first considered a danger spot by those who were eager to "fight the Act" at all costs. The British Medical Association was warned by some of its best informed representatives in that city, when the capitation fee was increased, that anything like general resistance at Glasgow would be impossible. Certainly the majority of the medical profession at Glasgow were opposed to the Bill in its original form and voted steadily against working the Act, but on Dec. 17th, when the increased pay was offered, there was a very rapid change of front. All the points brought forward by the British Medical Association may not have been, in their view, conceded by the Government, but enough had been done to secure adherence.

Calling on a well-known practitioner in the West-end of Glasgow, who stood to lose, and indeed has lost, many private patients in consequence of the working of the Act, he nevertheless, and at once, expressed himself as fairly satisfied with the results up to date. The men, he said, who were still opposed to the Act were in many cases chiefly dissatisfied because they had not many insured persons on their list. Here there was a grievance, for while some had little to do, others were overworked to the detriment of science and at the risk of accidents due to strain and haste. The fact that at Glasgow there is a practitioner with about 4500 insured patients on his list was, both he and I considered, a very serious matter. The law, however, does not impose a limit, and it is difficult to see what can be done until the patients themselves complain, and this they do not seem in the mind to do. My informant went on to explain that he had joined the panel for the purpose of taking charge of his own patients only. If this were done universally many more practitioners would be reconciled to the working of the Act. He said that he relied on the stipulation that the allocation of other patients was to be carried out with due respect to arrangements made with the practitioners. Altogether he had now on his list about 1500 insured persons, and he was still keeping together a good private practice. This certainly meant an increase of work, but, he allowed, probably a larger income. There was, he found, a great increase of frivolous cases; many insured persons consulted him because they wanted a tonic, and one patient called because he was fearful lest he should be getting bald. On the other hand, 1500 persons, paying him 7*s.* a year each, would represent a larger sum than he used to obtain from this class of patient in fees. Thus, there was one family who had been his patients for 20 years. Some years none of them would be ill. Other years there might be a bill of £1, and at most £2. To-day five members are insured persons; and that meant a steady income of 35*s* a year, a much larger average than he ever received before.

The Improved Conditions of Contract Practice.

I have now in consideration a practitioner holding a high position in the local profession and established in one of the most fashionable parts of the city. It was natural that he should have very little contract practice in connexion with the old system of clubs and Friendly Societies. Under the Act, however, he has quite a large contract practice. This change was explained by the fact that, before the Act, if the medical officer of a club offended one member of a club he might lose the entire club; to-day he would only lose that one offended person. Then, again, if he was on friendly terms with the managers of a club he might offend individual members with less risk of dismissal. This was unfair to the patients. The Act, however, has placed the practitioner and the patient face to face. The patient can no longer threaten his medical attendant with the anger of the officers of his organisation, and the doctor can no longer shelter himself behind the friendliness of any of the managing committee of the club. Hence many medical men are now taking contract practice who previously had no such patients. The Act had simplified the relations between patient and doctor, said this informant; these were now strictly personal, and neither the one nor the other could secure the intervention of a club or the managing committee of a club. Nor could a patient in a moment of anger about what might prove to be an imaginary grievance dismiss his medical attendant. Time has to elapse and formalities have to be complied with before a change of medical attendant can be effected. *I think it will be allowed that during the interval* for reflection which procedure under the Act entails misapprehensions may be removed, irritation calm down, and a reconciliation happily effected. The change from contract practice for clubs and Friendly Societies to contract practice as a panel doctor under the Act is in this way a great improvement, and in some respects I think this more than any [illegible] the great claim of the Act to [illegible] practitioners who are used to [illegible] much opposition to the Act still prevails even among Glasgow practitioners. Many object to the idea of compulsion, and on professional grounds contract practice is also condemned. Many, at least in theory, continue to condemn compulsion and contract practice, but consider it right to sink their personal prejudices. I was told by another practitioner that many of his patients had expressed their satisfaction that he had rendered it easy for them to keep him as their medical adviser by joining the panel. And he pointed out that now he enjoyed the certainty of a fixed income, and could, in all sincerity, wish his patients good health, for it meant he would have less work and not less pay.

Why Resistance Failed.

Calling upon the secretary of the Local Medical Committee, I found he agreed that at first the medical profession at Glasgow were opposed to the Act, but he said that they rapidly changed their opinions when the better conditions were offered. The Medical Committee had been formed according to the Act to elect medical representatives on the Insurance Committee and to represent the medical men practising in the city as extended last November. The Greater Glasgow then created must have a population of about 900,000. Though probably more names appear on the register there are about 600 active practitioners. Of these, on March 14th 374 were on the panel and they had 203 panel chemists at their service. The number of insured persons was then 351,000—a good third of the entire population. Certain districts of Glasgow are densely populated by insured persons, but the panel doctors are not distributed according to this population; and, therefore, the panel doctors who happen to live in these crowded districts are more likely to be selected by the insured. This rendered it more difficult to secure unanimity in the ranks of the profession. It follows, of course, that the practitioner in a district where nearly all the inhabitants are insured persons will view the Act in a different light from those practitioners who live in residential suburbs where there are but few insured persons. To try to bring about a common agreement many meetings and discussions were held. The most important meeting was at Christmas, 1912, when the members of the West of Scotland Branch of the *British Medical Association* were convoked. This includes Ayrshire, Lanarkshire, and other counties. Some four to five hundred members attended, and opinions were so divided that a resolution to accept the new terms offered in regard to the Act was only carried by the casting vote of the chairman. The resolution did not approve of the Act, but said that as no satisfactory alternative was forthcoming it had better be accepted. The real weakness of the situation was due to the fact that only half of the members of the profession took part in this effort, and no one could tell what the absentees would do. But it was fairly well known that 80 or 90 practitioners were prepared to go on the panel, and this was in itself quite sufficient to render effective resistance impossible. A good deal of club contract practice existed on the East side of Glasgow, and obviously contract practice under the Act would be a great improvement. A large number of practitioners, attracted by the prospect—in fact, by the certainty of earning a larger income in a more pleasant manner—were sure to join the panel, and this would lead many others who were not quite so convinced as to the advantages. Hence the resistance to the Act became seriously weakened.

In Glasgow, of course, allowance was made by the m thoughtful members of the profession for the fact that there might be among the young and newly qualified medical men quite a number looking forward to whole-time appointments. This was for the latter a golden opportunity. Instead of painfully and patiently building up a practice, if they joined the panel and judiciously selected a district where there was most need of panel doctors, they might easily start life with a certainty of at least £300 and perhaps more in 7*s*. *capitation fees from insured persons.* Never before in the history of medicine has there been so brilliant a prospect for beginners as that offered by these circumstances. This must be allowed, even while we wonder what such bright commencements will proceed to or end in. Medical men who have grown grey in the slow process of building up a practice have been not a little shocked to see unknown youths jump into good incomes and extensive practices in the course of a few weeks. Such quick change feats go against every prudent instinct and engender forebodings as to the evil consequence that must ensue upon the wreckage of well established and well-tried precedents. In the meanwhile, practitioners who had but few private patients, and many club patients who only paid from 2*s*. 6*d*. a year to 4*s*. at most, are delighted to find that they have now 2000 and some even close upon 4000 insured persons on their list, each bringing in 7*s*. a year. They may grumble at the excessive amount of clerical work this has entailed, but those whose income has thus been doubled and more than doubled in the course of a few weeks can put up with some inconveniences.

As a further source of congratulation practitioners among the poor are getting paid now for work that had never before been remunerated. At Greenock, notably, I heard of three medical practitioners who never expected to receive more than 50 per cent. of the very modest fees they charged their *patients. Now that the entire population from which such* patients were drawn are paying 7*s*. a head, their medical attendants are able to afford motor-cars.

The Poorest Pay for the Best Work.

Nevertheless, and in spite of these golden stories, there is the other side. Wages are rising, trade is just now very brisk; and on the Clyde they are building the largest ships in the world. When there is a shortage of money, will the Act work as easily? There are to-day many able practitioners on the Glasgow panel who have but few insured persons on their list. This is due to the fact that they have no consulting room or surgery in a neighbourhood where panel patients particularly live. Also, however high the standing of a medical practitioner may be, it is possible that his reputation is not widely spread among the class of persons likely to be insured. Many doctors with a middle-class practice have suffered. The sons and daughters of well-*to-do parents* may be earning, as clerks and typewriters, £1 or £2 a week. When they fell ill, their parents paid full fees for medical attendance, but now they are insured persons. [illegible] ts, their family physician [illegible] at the children of well-to-[illegible] They expect just about the same careful attendance they had before when their parents paid full fees for them, and they are not numerous enough to ensure a good income for their medical attendant. Here a good class of medical practice is receiving very poor pay. To treat a patient as club patients used to be treated pays well, and the poorest sections of the community have not been accustomed to more elaborate treatment. *But patients for whom the parents used to pay* 3*s*. 6*d*. or even 5*s*. a visit are not to be so easily satisfied. Their medical attendants must avoid the appearance of giving rough-and-ready treatment, which may be at bottom every whit as good as any supplied with greater observance *of ceremony*, lest they should get a bad name and so lose *patients* (the parents, for example) who are not insured and continue paying full fees. Thus, it will be seen that the better-class practice may well be the worst paid.

A Serious Danger.

On the other hand, so abundant is the remuneration in comparison with the trouble taken in attending to the poorest sections of the community that one *medical man in* Glasgow is giving up a large private practice because he finds practice under the National Insurance Act pays so much better. This panel doctor's list is so long that he is credited with having one birth per day. There is obviously in this a very great danger. Some measure should at once be enforced to prevent the creation of a vested interest in lists that are too long for efficient service. This I brought prominently to the notice of the secretary of the Medical Committee and the secretary of the Insurance Committee. Both readily recognised the evil, admitted its existence in Glasgow, and the risks to public health it entails. The secretary of the Medical Committee thought that to limit the lists more experience must be acquired. There must be clear evidence that the work is not done properly. Then what was too much for one man was barely enough for another, the personal factor counting for so much in the management of a practice. In a congested area, again, many more visits can be paid than in a widespread district with but little increase of trouble or outlay. The secretary of the Insurance Committee, on his side, hoped things would find their proper level by reason of the complaints that would be made. There would be inquests, and investigations, and scandals, and the panel doctors would exercise pressure upon each other. The patients on their side would also help by withdrawing their names from overburdened lists To this I naturally objected that, in the meanwhile, vested interests would have been created; and however just the cause of complaint it was always extremely difficult to remove a vested interest. In any case there was not a likelihood of many complaints. The poorest, the most forlorn sections of the community, those who have the best cause for complaining, were often lacking in the courage or capacity to take action, particularly if the complaint had to be made in a formal manner and in writing. Is it necessary to wait till several preventable deaths have occurred before attempting to check what, on all hands, is recognised to be a danger and an evil? Some exceptions could be made while matters were adjusting themselves; but it might at once be proclaimed that no panel doctor will be allowed to permanently keep on his list more than, for instance, 2000 names unless he can show that he has good claims for being able to organise his services to the real advantage of a larger number.

(*To be continued.*)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Rise in Price of Food in Relation to Wages.

THE *Manchester Guardian* has made some interesting inquiries as to the rise in the price of staple articles of food in recent years. It is contended by some writers that though nominal wages are higher the purchasing power of wages has actually declined. The prices stated below are the prices at the port, and 25 per cent. or thereabouts must be added to cover the additional costs. I may tabulate a few items:—

Per lb.	1906.	1912.
Bacon	6·64*d.*	7·21*d.*
Butter	12·82*d.*	13·95*d.*
Cheese	6·55*d.*	7·47*d.*
Flour	1·09*d.*	1·24*d.*
Lard...	4·89*d.*	5·77*d.*
Meal...	1·18*d.*	1·44*d.*
Sugar	1·83*d.*	2·08*d.*
Tea	15·42*d.*	15·85*d.*

The duty on sugar was reduced in 1908 from 4*s.* 2*d.* per cwt. to 1*s.* 10*d.*, and that on tea from 6*d.* to 5*d.* per pound last year. During the last six years the round increase is 10·4 per cent., and the same result is obtained if 25 per cent. is added to get the retail prices. Thus, 22*s.* must be paid for what would have cost only £1 six years ago. If the period of comparison is carried back to 1898 the increase is 16·33 per cent. Potatoes have gone up fully 50 per cent. The price of fish has also greatly increased, while as to English meat the rise in price is reckoned as from 10 to 15 per cent. The average price of coal at the pit mouth has risen in the same period from 10*s.* 9*d.* a ton to 14*s.* 9*d.*, an increase of 37 per cent. As to wages in Lancashire, in many occupations—clerical workers, warehousemen—the great mass of unorganised labourers—the increase, if any, has been only trifling. In the cotton trade an advance of 5 per cent. was given to cardroom operators in June, 1907. The average wages for men are from 29*s.* to 34*s.*, for women from 19*s.* to 28*s.*, and for girls from 9*s.* to 13*s.* Weavers earn from 24*s.* to 33*s.* per week. Carpenters a year ago obtained an increase from 9½*d.* to 10*d.* per hour. The position of organised carters has been improved, for they now have a minimum wage of 25*s.* It is clear that it is more difficult to-day for workers to maintain the same standard of living as five or six years ago.

Infantile Mortality and Women Workers in Mills and Factories.

A survey of the courts and alleys of Warrington by members of the Health Week Association has demonstrated the success attending the provision of more light and air and a purer atmosphere by the local authorities. Dr. J. C. Hibbert, the medical officer of health, in a lecture urged the people to coöperate with the authorities in procuring for themselves the safeguards of modern sanitation. Mr. P. M. Oliver, speaking of the heavy infantile mortality, stated that at Burnley 60 per cent. of the married women under 35 years of age worked at occupations away from their homes, and 20 per cent. of their children died before they were one year old. At Bury 45 per cent. worked away from their homes, and 16 per cent. of their children died during their first year. In Burton, where the percentage of women employed was only 2, the infantile mortality in the first year was 12 per cent. Mr. Oliver concluded: "You send the woman to the mill and you send the child to the grave." From recent investigations it would appear that about 70 per cent. of the infantile mortality is caused by (1) unsatisfactory feeding, (2) mismanagement and exposure, and (3) defective physique of the mother—to each of which causes the daily absence from home is contributory. These conclusions confirm Dr. Reid's 20 years' investigations in the potteries.

The Sanitary Condition of the Hayfield District.

In his final report before retiring Mr. C. J. Bennet, of Buxton, for nearly 40 years medical officer of health for the Hayfield district, says that in the district, which should be one of the healthiest in England, scarlet fever and diphtheria are endemic, while one person in every 100 houses is suffering from tuberculosis. He impresses on the authorities the terrible waste in money, life, and economic efficiency thus entailed.

Insurance Act Abuses.

In the Hyde district it is stated that there is considerable abuse of the Insurance Act by women mill-workers. Many seem to think that so long as they get a doctor's certificate they can do anything except go to the mill. Some do their own washing, baking, and general housekeeping; some go to picture palaces when they are reported "sick" and are drawing sick pay. Against 2½ per cent. of male members drawing insurance money, the percentage of female workers is between 5 and 6. In the Accrington district, while there have been abuses of the Act, the number of cases is small, probably because immediately the Act came into operation the District Weavers' Association appointed a sick visitor and a sick steward, whose work it is to go round daily, at any hour, paying surprise visits to those in receipt of sick pay, by way of showing what those on the sick list cannot do under the Act.

April 22nd.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The late Mr. Jordan Lloyd.

AT a special meeting of the general committee of the Queen's Hospital the following resolution was passed:

> That the General Committee of the Queen's Hospital record with the deepest sorrow the sudden and untimely death of Mr. Jordan Lloyd, who since 1879 has been closely associated with the work of the institution, first as house surgeon, 1879, then as casualty surgeon, 1881, and as honorary surgeon from 1883 until his death. They gratefully recall his devotion to his duties, and his unfailing kindness to all with whom he came in contact. By the death of a surgeon of such eminence, skill, and distinguished reputation, the public, the hospital, and the medical profession suffer a grievous loss. The committee desire to tender to Mrs. Jordan Lloyd and the members of her family their most sincere and heartfelt sympathy.

A subcommittee was appointed to consider how the services of the late Mr. Jordan Lloyd may be perpetuated.

Birmingham Health Week.

Two mass meetings will be held in the town hall on April 28th and 29th, at which the Bishop of Birmingham, Dr John Robertson, the medical officer of health, and Professor H Gilbert Barling, the Vice Chancellor of the University, will speak A large number of clergymen and ministers have promised to preach health sermons on the Sunday, and addresses will be given in over 60 adult schools and P S A 's on the same day Lectures will be given at each of the branches of the General Dispensary The baths committee has arranged for special exhibitions of swimming and life saving in the city baths during the week Many other meetings in various places are also arranged

April 22nd

BRISTOL AND WESTERN COUNTIES

(FROM OUR OWN CORRESPONDENTS)

Bristol and Sanatorium Treatment

THE health committee has adopted a scheme for the treatment of tuberculosis on a civic basis, and has sent it to the Insurance Committee for consideration before submitting it finally to the city council It is proposed to establish two dispensaries, one in Portland square and the other in Redcliffe Parade (this dispensary has already been at work for over a year on a voluntary basis) As to sanatoriums, to the 21 beds already available for Bristol cases at Winsley 29 more are to be added, while three new blocks of 20 beds each are being built at Ham Green These latter will include accommodation for advanced and after-care cases The estimated annual cost per bed is £78 at Winsley and £69 14*s* at Ham Green The health committee is prepared to appropriate 55 beds, 40 of them at Winsley, for insured persons The medical staff will consist of 1 A tuberculosis officer to control the clinical work of the dispensaries, to act as expert clinical adviser to the Insurance Committee, and as consulting officer for purposes of domiciliary treatment , salary £400, rising by £50 a year to £500 2 A resident medical officer at Ham Green , salary £300, rising by £50 a year to £400, with board and lodging, less any sum received for the treatment of insured persons 3 An assistant medical officer to live at Ham Green, and to help both in sanatorium and dispensary work , salary £200 rising to £250 The whole scheme will be administered by a consultative committee, consisting of six members of the health committee, four of the Insurance Committee, and two of the Civic League Practically the whole of this scheme has already received the approval of the Insurance Committee

Bristol Eye Dispensary

The report for 1912 which was presented at the annual meeting of this institution, contained several items of interest The number of new out patients seen during the year was 3309, a considerable increase on previous years Owing to the large increase in refraction work falling on the staff as a direct consequence of the medical inspection of school children, it has been found necessary to refuse to undertake the ordering of spectacles for patients coming to the dispensary as a result of school inspection Mr P J Worsley has resigned the chairmanship an office which he has filled with conspicuous success for nearly 20 years Mr E H E Stack also has resigned his surgeonship which was filled by the promotion of the senior assistant surgeon, Mr A Fells

The Insurance Medical Service in Bristol

The opening of the second quarter of the operation of the medical benefit organisation of the Insurance Act finds almost 10 000 persons who have neglected to choose a doctor for themselves, these, unless they make haste will be assigned to panel practitioners by the Insurance Committee The number of panel practitioners will not alter materially , several have resigned, but their places will be filled by others who had not heretofore joined the service

The Decrease of Vaccination in the West of England

At a recent meeting of the Warmley (Gloucestershire) board of guardians the chairman said that the whole system of vaccination was in a wretched state The clerk added that the more the vaccination officers worried people with unvaccinated children, the greater were the number of exemptions granted The diminution of vaccination in the West of England is undoubtedly serious

Increase of Salary for Medical Officer of Health

At a meeting of the Somerset county council held last week it was decided, on the recommendation of the public health and housing committee, to increase the salary of the medical officer of health by the sum of £100 per annum

Death of Mr George Alfred Harrison, L R C P Lond , M R C S Eng

Mr G A Harrison, who died recently in his forty seventh year at Eltham, New Zealand, from blood poisoning contracted in the performance of his professional duties, was the son of Dr A J Harrison, consulting physician to the Bristol General Hospital He was educated at Clifton College, Pembroke College, Cambridge, and St Bartholomew s Hospital He took the Conjoint qualifications of London in 1893 Mr Harrison had been in practice for several years at Eltham, where he was highly esteemed He leaves a widow and two sons

April 22nd

LIVERPOOL

(FROM OUR OWN CORRESPONDENT)

Liverpool Scheme for a Proposed Sanatorium for Tuberculosis

As the outcome of a deliberation at a special meeting of the port sanitary and hospitals committee of the Liverpool corporation it was decided to ask the city council to allow the committee to advertise for competitive designs for a sanatorium for tuberculous patients, and to offer three premiums—viz , first £150 , second, £100 , and third, £50 The committee considered all aspects of the question, and was unanimous in its recommendation, which will come up for consideration at the next meeting of the council The sanatorium proposed to be erected will be altogether separate from the present hospital at Fazakerley, and will provide accommodation for 250 patients The cost of the building will be partly borne out of the grant provided for in the Budget of 1911 The committee s expectation is that the amount forthcoming from this source will be approximately two thirds of the total The need for the sanatorium is very urgent and the committee hopes that the scheme will pass the council without opposition so that the work of construction will proceed with the least possible delay —Dr W C Oram has been appointed by the education authority to the charge of the new clinic for X ray treatment of ringworm

Liverpool Royal Infirmary and its Need of Radium

The need for a supply of radium for use in cancer cases has long been felt by the director of the electrical department at the Royal Infirmary It is with pleasure that I am able to record that the matter has been taken in hand by the proprietors of the *Liverpool Daily Post and Mercury* A leading article appeared a few days ago in the columns of that newspaper appealing to the generosity of the Liverpool public for contributions towards a supply of radium with the object of the appeal e publication of the article It will enable the committee to purchase the necessary quantity £800 have already been promised, and it is hoped that in a few days the whole amount will be forthcoming

Changes in the Honorary Staff of the David Lewis Northern Hospital

At a meeting of the election committee held on April 16th Dr John Owen honorary assistant physician, was elected honorary physician , and Mr George C F Simpson honorary assistant surgeon, was elected honorary surgeon Dr Owen takes the place of Dr W B Warrington, who has joined the honorary staff of the Liverpool Royal Infirmary, while Mr Simpson succeeds Mr Damer Harrisson whose term of office has expired

Liverpool Medical Institution

At the last ordinary meeting of the session the president, Mr Robert Jones, proposed "that the congratulations of the members of this society be tendered to Dr William Blair Bell on the occasion of the Hunterian medal having been awarded to him by the Royal College of Surgeons, England." The proposition was carried with acclamation

April 22nd

WALES.

(FROM OUR OWN CORRESPONDENT.)

Diminishing Entries to the University of Wales.

CONCERN is being expressed in certain quarters at the falling off in the number of candidates who enter for the matriculation examination of the University of Wales. In 1908 there were 867 entries, and in 1912 only 408. Various explanations have been put forward to account for this reduction, though possibly it is due to more than one cause. The fees for the Welsh examination are a little higher than those at the Scottish universities and at some of the English universities, but it is hardly likely that this has an appreciable influence on candidates in their choice, and it is contended that the high percentage of failures indicates a more difficult examination than elsewhere, though this fact cannot wholly account for the great drop in the number of entrants. The most probable explanation is that owing to the large number of graduates who have left the University in former years it is found that the possession of a degree is not of so much assistance as it formerly was in obtaining lucrative positions, and that young men are finding they can spend the years which would be given to their university life to better purpose in commercial careers.

Retirement of Dr. H. R. Vachell from the Cardiff Hospital.

Under one of the general rules of the King Edward VII. Hospital, Cardiff, requiring the retirement of members of the medical staff at the age of 65 years, Dr. Herbert R. Vachell has resigned his position of senior honorary physician. Dr. Vachell was first associated with the hospital as long ago as 1877, when he was elected house surgeon, an appointment which he held for three years. From 1885 until 1895 he was out-patient medical officer, and in the latter year was elected an assistant physician, becoming full physician in 1902. Some idea of the development of the hospital during the 36 years in which Dr. Vachell has been officially connected with it may be gathered from the statement that in 1877 the number of in-patients treated was 493, and the number of out-patients 4918, while last year these numbers were multiplied by five. The income, which was under £3000 in 1877, is now five times that amount. At the meeting of the board of management at which Dr. Vachell's resignation was tendered, tribute was paid to the zealous, conscientious, and able manner in which he had carried out his duties as a member of the medical staff during the whole of the lengthy period of his connexion with the hospital.

Insanitary British Ships.

In his annual report to the Newport (Mon.) port sanitary authority the medical officer of health, Dr. J. Howard-Jones, once again draws attention to the inadequacy of the sanitary supervision of British ships by the Board of Trade. In two newly launched vessels which arrived at Newport from the north the crew's spaces contravened the regulations of the Board, although both of them had been certified as satisfactory. During 1912 there entered the port of Newport 1809 "coastwise" vessels, and no fewer than 281, or 15·5 per cent., were found to be insanitary in some respects, the percentage of steamships being double that of sailing ships. The suggestions in the report are that regulations should be made for ensuring a higher standard of hygiene on the part both of masters and members of the crew; that there should be an increase in the staff of Board of Trade marine surveyors in order that the regulations of the Board might be efficiently enforced; and that as the accommodation provided on many new vessels is very unsatisfactory and antiquated greater attention should be given to the elementary principles of domestic hygiene in the designing of the crews' spaces on new vessels. Dr. Howard-Jones again urges the desirability of appointing an inter-departmental committee of the Board of Trade and Local Government Board for considering the whole question of the hygiene of the merchant service. Among the diseases to which sailors are peculiarly liable he includes those associated with the peculiar environment of seamen, such as damp forecastles, contaminated water-supplies, and the close association of the sick with the healthy in the confined quarters on shipboard. It is against these diseases that the efforts of the port sanitary authority for improving the sanitation of vessels should be directed, more especially having regard to faulty construction, wear and tear, lack of cleanliness, and forms of nuisance generally on board.

April 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

National Health Week.

IN many parts of the country last week was observed as the National Health Week. The object of the movement is to arouse an intelligent interest in health even among the most thoughtless and ignorant members of the community, and to secure increased support for the local health authorities and voluntary societies. One of the latest towns to take it up in Scotland is Wishaw, and a start was made in the beginning of the week, when special sermons were preached in most of the churches on Sunday. During the week the children in the schools had short and simple addresses given to them; cookery demonstrations were given each evening at suitable centres, where exhibitions of gas fires, cookers, &c., also took place; the local cinematograph halls showed in the afternoons instructive films illustrative of some appropriate health topic; and suitable literature was distributed throughout the burgh by the Boy Scouts. The movement was largely supported, and prominent public men interested themselves by presiding at the various gatherings.

The Kirkcaldy Small-pox Outbreak.

Dr. G. W. McIntosh, medical officer of health of Kirkcaldy burgh, has just issued an interesting report on the recent small-pox outbreak, which occurred about the end of September last and was responsible for 42 cases before the end of the year. As no case of small-pox was known of in Scotland about the time the outbreak occurred, Dr. McIntosh was forced to the conclusion that the flax at the spinning mill, among which the boy who first contracted the disease worked, was most likely to have borne the infection to him. During the outbreak free vaccination was offered, and medical practitioners vaccinated 6395 persons at a cost of £639 10*s.* to the town. In addition to this number, 500 were vaccinated by Dr. McIntosh, and 300 at their own expense, giving a total of at least 7195, thus showing that more than one-sixth of the entire population had been recently vaccinated. Had this outbreak of small-pox been delayed another five years a large number of unvaccinated children, exempted through the loophole of the conscientious objection clause, would have been attending the schools, and the consequences might have been appalling.

Vaccination at Buckie.

The local medical officer reported to the Buckie town council last week that something like three-fourths of the population of the burgh would be unvaccinated shortly through conscientious objections.

A New Whole-time Appointment in Orkney.

At a meeting of the secondary education committee for the county of Orkney at Kirkwall last week Dr. R. P. Heddle was appointed medical officer for Orkney under the scheme for the inspection of school children. By arrangement with the county council it is proposed that Dr. Heddle will retain his appointment as medical officer of health for the county, but he will relinquish his private practice and devote his whole attention to the duties of public health and medical inspection of school children.

The National Insurance Act at Work.

Interesting figures have lately been published regarding the working of the Act in the rural parish of Strichen, through the local secretaries of the Free Gardeners Society and of the Strichen branch of the Farm Servants Union. No attempt to make deductions from the limited numbers is made, but the facts are interesting as being probably typical of other rural parishes in the north-east of Scotland. The great majority of the employees in the district are insured with these two societies. The former has 250 of both sexes and of all classes of workers on its books, and the latter has 94 of both sexes, all farm workers, making a total of 344 insured persons. The Free Gardeners administered sickness benefit during the quarter to 18 State insured members, 13 men and 5 women, the men receiving a total of £11 5*s.* 2*d.*, and the women a total of £3 15*s.* Each male got an average of 17*s.* 3*d.*, and each female an average of 15*s.*; the average for both sexes combined works out at 16*s.* 8*d.* each. This is equal to a return of about 1*s.* 2*d.* to each of the total insured persons, the males receiving about 1*d.* more each than the females. Six cases of maternity benefit were paid £9. There are in addition the medical benefit and drugs; but no attempt has been made to set down the value of medical attendance or consultation and drugs in figures dealing with one quarter. The length of sickness among the 13 males ranged from 4 to 39 days, and totalled 170 days; the loss among all insured males amounted to a fraction less than one day, while the loss among all insured females amounted to slightly more than one day. Roughly speaking, 9 per cent. of male farm servants were in receipt of sickness benefit, as compared with 4 per cent. of all other males; 8 per cent. of female farm workers were in receipt of sickness benefit, as compared with 7 per cent. among all other female servants. With regard to the figures shown by the Farm Servants Union, with its 86 men and 8 women, all farm workers, none of the females received sickness benefit. Five of the men obtained an average of 9*s.* 10*d.* each, as compared with the 17*s.* 3*d.* of the Free Gardeners. Each of the 94 members had returned to him or her, therefore, about 6*d.* on an average, as compared with the 1*s.* 2*d.* among the gardeners. Maternity benefit was given in two cases.

April 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Medical Certification under the National Insurance Act.

A MEETING of the Advisory Committee to the Irish Insurance Commission was held on April 15th, when the chairman, Mr. P. D. Glynn, made a detailed statement concerning the reception of the scheme for medical certification put forward by the Commissioners. Up to the previous day the Commissioners had received the names of 610 doctors to act on the panels. *Of these, 14 had afterwards withdrawn.* It would appear from Mr. Glynn's statement that panels have been constituted in about one-third of the country. In a few of the areas—e.g., Belfast, Antrim, Armagh, and Donegal—the panels seem to be adequate. In other areas, as in Clare and Mayo, the panels, though declared "complete," are certainly inadequate. The Advisory Committee discussed the matter in private, and resolutions were carried that in areas where the panels have failed to fill the Commissioners, after consultation with the Approved Societies and Insurance Com- [illegible] paid *per capita* in accordance with the number of members of these societies in those areas covered by the first part of the resolution. The Commissioners are therefore convening, in each of the areas referred to, conferences between representatives of the Insurance Committees and the Approved Societies.

Women's National Health Association.

At the annual meeting of the general council of the Women's National Health Association held last week in Dublin, Lady Aberdeen said that there were 19,000 members and 151 branches. Eleven branches had been dissolved, but 11 new ones had been formed. The annual subscriptions amounted to £994 9*s.* 11*d.* In addition the branches had raised approximately £4000. The association had been entrusted with a Government grant for providing sanatorium accommodation for patients under the National Insurance Act. Between 80 and 90 schools were receiving meals from bra[illegible] A number of branches were [illegible] couraging agricultural and [illegible] special report of the Collier Memorial Dispensary would give an idea of what might be done by those dispensaries when they were fully established. 1700 patients had been registered at the dispensary, and 4831 persons had been brought under the influence of tuberculosis nurses. The dispensary having been transferred to the corporation of Dublin, the balance of the Collier donation would be applied towards the erection of a pavilion at the Peamount Sanatorium. A resolution was passed asking the Government to strengthen the existing laws dealing with the disinfection, and, in proper cases, the destruction of infected dwellings.

Vacancy on the Council of the Royal College of Surgeons.

There is a hot canvass for the vacancy on the council of the Royal College of Surgeons, created by the death of Sir Henry Swanzy. Several Dublin practitioners are candidates, while, on the other hand, a memorial has been widely and influentially signed urging the election of a country Fellow. The unexpired term of office is brief.

The Extension of Medical Benefit to Ireland.

At a meeting in Dublin, on April 18th, of the Irish County Councils' General Council, a resolution of the executive committee that medical benefit under the National Insurance Act should not be extended to Ireland—except the urban centres—unless accompanied by a revision of the Poor-law medical system, was adopted. This resolution, taken in conjunction with the declaration of the actuary to the Insurance Commissioners that extension to the county boroughs and not to the rest of the country is "actuarially impossible," appears to render unlikely the proposed project of extending medical benefits to Ireland. A conference will assemble in London on April 30th to consider the question.

The Final Census Returns for Ireland.

A Parliamentary Blue-book of over 600 pages, just issued, gives the corrected figures of the lately taken Census of Ireland. The total population of Ireland, which in 1901 showed a total of 4,458,775, is now (1911) 4,390,212, indicating a loss in the decennium of 68,556, or 1·5 per cent. One in every 57 of the population is returned in 1911 (as compared with 1 in 44 of 1901) as receiving Poor-law relief. The number of emigrants during the ten years ending March 31st, 1911, amounted to 345,159 (171,875 males and 173,284 females), which is a smaller number than in either of the two preceding ten-year periods. There are only three cities in Ireland with populations over 50,000—viz., Belfast, 386,947; Dublin, 304,802; and Cork, 76,675. During the ten years 1901–11, the population of Belfast has increased by 37,767, that of Dublin by 14,164, and that of Cork by 551.

Irish Emigration in 1912.

During 1912 there were 29,79[illegible] a decrease of 1229 as compared [illegible] below the average for any year [illegible] for which records are available. Of the emigrants, 6·9 per 1000 were from Munster, 7·5 from Ulster, 10·6 from Connaught, and 3·3 from Leinster. Over 20,000 went to the United States and nearly 6000 to Canada. Since May 1st, 1851 (*when statistics of emigration were first begun*), 4,247,360 Irish people have emigrated, and of these 2,207,637 were males. This number represents 81·4 per cent. of the average population of Ireland, Munster's contribution to the total equalling 109·9 per cent. of her average population, Connaught's 89·7 per cent., Ulster's 69·2 per cent., and Leinster's 55 per cent. Roughly, two-thirds of last year's emigrants were between 15 and 25 years of age, and one-quarter were between 25 and 35—that is, it is the very *flower of the people who are emigrating.*

Londonderry Doctors and the Friendly Societies.

Owing to the failure of the Federation of Londonderry *Benefit Societies to arrange terms* with the local doctors, it was decided on April 7th to import to that city a number of medical men who had applied for appointments. This dispute has gone on since the doctors resigned their contract appointments with Friendly Societies in January last.

Death of John McGee MacCormac, M.D. Durh.

Dr. John McGee MacCormac, of Belfast, dropped dead suddenly from heart disease on April 20th while out walking. Dr. MacCormac was born at Ballynahinch, co. Down. He was educated [illegible] Queen's Colleg[illegible] of the Royal C[illegible] After practisin[illegible] attended the London hospitals. In 1885 he became M.D. of Durham. Returning to Belfast, he *established a considerable* practice in nervous diseases in the North of Ireland, and in 1896 he founded the Hospital for Nervous Diseases, of which he was honorary physician at the time of his death. He was a Fellow of the Royal Society of Medicine and a member of the Neurological Society of London. He wrote considerably on nervous diseases in the medical journals, some of the articles appearing in THE LANCET. He is survived by his widow and by one daughter, who is married to Dr. J. B. Lendrum, of Oldham.

April 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Professor Landouzy.

ON April 14th Professor Landouzy, doyen of the Faculty of Medicine of Paris, was elected, by 42 out of 55 votes, a free associate Member of the Académie des Sciences.

Lesions of the Semilunar Cartilages.

M. Quénu, the eminent surgeon, recently said at the Société de Chirurgie that he had had to deal with three cases of lesions of the semilunar cartilages of the knee. Unfortunately, he had been unable to trace one of the cases, but one of the other two was that of a man, 26 years of age, who in 1890 had had pain and swelling of the knee following on a fall. These symptoms rapidly improved and disappeared after eight days of rest and treatment by massage. From time to time, however, he suffered from hydrarthrosis, also from a sudden stoppage of flexion of the limb during walking, accompanied by a jumping sensation (*sensation de ressort*). When M. Quénu again saw this patient, seven years after the accident, he found on the inner aspect of the knee at the interarticular level an elongated projection, which became displaced during the movements of the joint. On making an incision it was found that the anterior cornu of the semilunar cartilage was torn, and that the cartilage was twisted outwards upon itself. Partial resection brought about a cure. The other case was that of a man, 22 years of age, who after a fall was unable to flex the leg completely. One day when seated he found himself unable to rise unaided, which led him to consult the speaker. He had a slight swelling of the knee, and on its inner aspect a painful projection was found. Movement of the leg caused pain, and complete extension was impossible. M. Quénu diagnosed a tear of the internal cartilage, part of it being reflected upon the rest. The name of traumatism of the semilunar cartilage, he said, seemed admirably suited to this class of injuries, which occurred in displacements, luxations, or fractures. When inflammation existed it was only secondary. The diagnosis of this condition could be made, without regard to the more or less recent date of the accident, by the impossibility of extending the leg and the habitual absence of hæmarthrosis. Radiography failed usually to afford any precise information. The injury could be distinguished from foreign bodies by the seat of the pain, which in the latter was not fixed, by swelling at the interarticular line and by the presence or absence of intra-articular effusion. As to simple inflammation of the meniscus, M. Quénu considered it open to doubt. Roux claimed to have seen frequent examples of it, but the absence of any anatomical verification discounted the precise value of the observations. As to treatment, Lejars and Jacob, agreeing with Bergmann, advised total resection of the cartilage. If only one end was detached M. Quénu considered partial resection sufficient, and his two patients treated in that way were both cured. If a fissure or a fracture coexisted total resection of the cartilage was necessary. In certain cases fixation might suffice.

The Treatment of Hæmoptysis.

On April 11th, at the Société Médicale des Hôpitaux, communications were made by various authors concerning the treatment of hæmoptysis in the tuberculous. M. Rist recommended the use of intravenous injections of an extract of the posterior lobe of the hypophysis. M. Sergent said that he had obtained the best results from ipecacuanha powder in small doses, combined with small amounts of opium. M. Flandin reported a case of profuse hæmoptysis checked on the day of its occurrence by a subcutaneous injection of 4 centigrammes of emetine hydrochlorate.

A Provident Association for French Medical Men.

A mutual aid society for the women and children of medical men has been established in Paris under the patronage of the Société Centrale. The statutes of the new society have been approved, and, thanks to the already large membership, it has begun operation. It proposes to establish for its contributing members retiring pensions (*des pensions de retraites*) according to the resources at its disposition, to award annual grants, and to give material aid to the contributing members, as well as to their families, when they are ill or infirm. The chief aim of the society is the establishment of a maximum retiring allowance of 360 francs. A third or two-thirds only of the retiring allowance, to mature at 55 or 60 years of age, may be subscribed for with premium accordingly, or after 15 annual payments when entrance to the society takes place after the age of 45. The premiums, which may be paid every three or every six months, may go either to the assignable or to the reserved capital. In the latter case the premiums paid are always returned to the heirs of the deceased, whether the latter had retired at the time of his death or not.

The Treatment of Obesity.

M. Pron reported recently to the Société de Thérapeutique two cases of obesity which were markedly improved by a regimen in which the value in calories of the food allowed was completely ignored, regard being paid only to its digestibility; there was also in these cases a notable diminution of physical exercise. These observations show that, even when there is, or seems to be, disturbance of the internal secretions (*dysendocrinie*) to which obesity is thought to be attributable, the antidyspeptic regimen and the diminution of exercise diminish adiposity to an appreciable extent. The cessation or diminution of the irritation exercised on the solar plexus and the cerebro-spinal nerve system modifies the respective trophic centres and allows them to impress on the phenomena of nutrition, as on those of the internal glandular secretion, a normal or nearly normal functioning.

The Royal Institute of Public Health.

The Royal Institute of Public Health of London will hold its annual congress at Paris from May 15th to 19th. A French committee, of which Professor Landouzy is president and Dr. Marié-Davy secretary-general, is taking part in the organisation of the congress.

April 21st.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Medical Attendance for English Women in India

A LAHORE paper goes into this question at some length. It points out that it will probably not have escaped the notice of many who are vitally affected in this connexion that out of 12 men appointed to the Indian Medical Service in the present year three are natives of India. In itself it would appear reasonable that in the Indian Medical Service, which is primarily maintained for the benefit of the Indian army, there should be a fair proportion of those inhabitants of the country who are able enough to qualify for the position of medical advisers to the Indian regiments. Unfortunately, however, the matter does not rest there. There is the very important question of the medical attention required by English women in this country. Rightly or wrongly, all women have a very marked preference to be attended to by medical men of their own race. To this standpoint it is quite impossible for an Indian to demur. If this is the attitude adopted as regards ordinary ailments, it can well be understood that in all matters relating to the sex such an attitude becomes immensely accentuated, and it is in the very nature of the female sex that medical advice and personal medical attention are constantly needed. Within the Indian regiments to which Indian Medical Service officers are first posted the matter is not of very great importance, because in all but the smallest cantonments other doctors are obtainable in time of need. It is, however, from the ranks of the Indian Medical Service in the army that recruits are obtained for the civil surgeoncies of the various districts, and it is in these districts that the pinch is most felt. No doubt these appointments are made by selection, and the matter of suitability for all kinds of work can be taken into consideration at the time of selection, but in the end a proportion of posts in civil employment must be given to any section of the Indian Medical Service which is sufficiently numerous. It is therefore obvious that the number of Indians in the civil surgeoncies must increase in the future. While this movement is going on, the same pressure that is exerted by other subordinate establishments is seen to be working from the ranks of the assistant surgeons. In every department alike there is the cry that promotion should not come to a dead stop within the lower grades, but that the ablest men should have a right to aspire to certain of the superior posts. There is, therefore, a tendency to increase the civil surgeoncies held by the establishment recruited in this country. Proposals have been set on foot to go even further and to encourage local practitioners to oust the official staff, whether British or Indian. These suggestions will, it is to be hoped in the interests of the country, not mature, and while Mr. Lloyd George is forming an official service of panel doctors at home it is hardly the time for the Home Government to interfere with the official system of this country. However, it is necessary to note that there is a steady decrease in the numbers of European medical men in charge of the districts in India, and it is necessary that this movement should be carefully watched in the interest of European women in the country and all that their presence means. The absence of medical advice of the type to which European women are accustomed is bound to have an adverse effect on those whose lives are to be spent in out of the way stations. The problem is a difficult one because there is a definite conflict of two interests. On the one hand it is right that the Indians who qualify themselves for superior posts should enjoy a reasonable proportion of such posts. On the other hand, if there is to be a British administration at all, care must be taken that the strength of the British officers in the various departments is not so low as to cause a loss of efficiency or a lowering of British standards. The same problem crops up in a different way in the Educational Department, where Western education has been accepted by so many whose claims to promotion within the department cannot be ignored that the future generations of Indian students will grow up imbibing an imitation of such education without ever coming into contact with any first hand exponent of Western thought.

The Question of Hospital Fees in India.

The Government of India in the Home Department have issued a resolution on the question whether persons attending hospitals and dispensaries maintained or assisted from public funds should be considered to be entitled to gratuitous medical advice and treatment irrespective of their circumstances. The Governor-General in Council has recently consulted local governments on this question, and the replies received have indicated a considerable divergence of practice in the different provinces, as also distinct differences of opinion regarding the policy which it is expedient to adopt. The Government of India, while recognising that varying conditions in different parts of the country render it impossible and undesirable to prescribe any one course for universal adoption, are of opinion that action should be taken to enforce the principle of discrimination, the acceptance of which to their mind has now become timely. The provinces averse from the introduction of a general requirement of payment are Madras, Bengal, Eastern Bengal and Assam (these inquiries were made before the redistribution of provinces) and Burma. Even in these provinces, however, medical assistance is not given entirely free. In Madras and Assam medicines, as distinct from advice, are generally paid for by persons possessing more than a minimum income. In Burma and Eastern Bengal persons of reasonable means are supposed in theory to make some return for attendance in the shape of voluntary subscriptions. On the other hand, the Government of Bombay, the Punjab, and the Central Provinces are in favour of a system of payment by persons of means. In Bombay rules directed to this end are in preparation, and in the Central Provinces experiments are being tried with a view to arriving at a satisfactory solution. In the Punjab the Lieutenant-Governor has made a public announcement in favour of the imposition of small fees, but some opposition from municipal committees is reported. The United Provinces Government, while conscious of the obstacles which have hitherto been regarded as rendering inexpedient the levy of any charge, considers that these are weakening and that the time has come to review the position. After stating the arguments commonly urged against and in favour of, the levy of a charge for attendance the Government of India announce their conclusion. They are convinced that resort is at present had to the public hospitals by persons who are in a position to pay for such benefits, and they consider that it is only fair to the growing medical profession that an effort should be made to prevent this practice. With the exception of the more backward areas it should be possible to avoid the pauperisation of the people in this matter without preventing the treatment *at the public expense of the poor* who are willing to avail themselves of the opportunity. The fear that the refusal of gratuitous relief to those who cannot be described as indigent will prejudice the progress of western science is apt to be exaggerated. Persons in comfortable circumstances have to be educated up to the recognition of a fact that they have no claim to free medical relief at the cost of the State. The Government of India, therefore, declare in favour of the introduction of an efficient system of discrimination, without prescribing any hard and fast rules for adoption everywhere. The local knowledge of those controlling medical institutions must be trusted to devise whatever method may best suit the particular conditions to be dealt with. The Government of India suggest that a beginning should be made in important urban centres, where supervision is strongest and the supply of private practitioners adequate, especially with reference to private wards in the larger hospitals. Patients who can afford to pay for separate accommodation should be charged a reasonable sum in addition for attendance and medicine, care being taken not to undersell private nursing homes or to compete with private medical men. In rural areas progress may be less rapid and must be adapted to local conditions.

March 26th.

Obituary.

RAYMOND BROADLEY ETHERINGTON SMITH, M.A., M.B., B.C. CAMB., F.R.C.S. ENG.,

ASSISTANT SURGEON TO ST. BARTHOLOMEW'S HOSPITAL AND WARDEN OF THE COLLEGE; LATE ASSISTANT SURGEON TO THE WEST LONDON HOSPITAL.

WE have to record with great regret the untimely death at the age of 36 of Mr. R. B. Etherington Smith, a rising surgeon on the staff of St. Bartholomew's Hospital, and world famous as an oarsman. The news of his death after a very short illness has come as a painful shock to an immense circle of friends and admirers. His ability, his thoroughness, and the singular charm of his character long ago marked him down for a distinguished professional career, and it is difficult to write of his loss without emotion. On Thursday, April 17th, he was found to be seriously ill. That afternoon he was operated on for general peritonitis at St. Bartholomew's Hospital by a colleague. When the organism was identified as pneumococcus the gravest fears were entertained, but everything possible was done. On Saturday morning he died in Paget Ward to the great grief of all who knew him.

Raymond Broadley Etherington Smith was born in 1877, the son of Mr. J. H. Etherington Smith, a Bencher of the Inner Temple and Recorder of Derby. From Repton he proceeded in 1895 to Trinity College, Cambridge, where he immediately made his name as an oarsman of great promise. The long story of his successes on the river has been told elsewhere. He soon reached the very front rank among amateur watermen and remained there for over ten years, taking an important part in many notable victories. He rowed thrice for Cambridge, and was President of the C.U.B.C. in 1899, when Oxford lost for the first time after nine consecutive successes. He captained Leander during four seasons, and three times rowed in the Leander boat which won the Grand Challenge Cup at Henley. His last and greatest feat on the river was in 1908, when he captained the United Kingdom eight which beat the Belgian crew in the Olympic Regatta. In rowing matters his advice and help were eagerly sought and generously given, and as a coach he brought out the best of every man.

Etherington Smith joined St. Bartholomew's Hospital in 1900. He took the M.A., M.B., and B.C. degrees in 1903, and became in turn ophthalmic house surgeon, house surgeon, extern midwifery assistant, and senior resident anæsthetist at St. Bartholomew's Hospital. In 1907 he obtained the Fellowship of the Royal College of Surgeons of England and was immediately appointed demonstrator of anatomy in the medical school of his hospital. A year or two later he became surgical registrar and demonstrator of surgical morbid anatomy, and was appointed Warden of the College, coming into residence at the Warden's house within the hospital precincts. By this time he was assistant surgeon at the West London Hospital, where he had previously been surgical registrar.

Only a few months ago Etherington-Smith was elected to the vacant post of assistant surgeon to St. Bartholomew's Hospital, and no more popular appointment was ever made. He had already begun to make substantial headway in private practice, and a distinguished future clearly lay before him. As in the past no competitor ever grudged him a victory, so it is certain that everyone would have rejoiced as he went on from success to success. His personality mastered all who came in contact with him. He had every advantage that Nature could give a man—good looks, splendid physique, brains, courage, and self-possession. To these he added perfect modesty and straightness and an engaging good humour. It is tragic beyond words that "Ethel"—as he was affectionately known to all his friends—should have been cut off before his prime. From the day he joined St. Bartholomew's Hospital, he stood out from among his contemporaries as a man of mark. Whether they wished it or not, all were drawn towards him. It was not so much the force of his intellect as the force of his personality. He charmed without conscious effort, and he impressed without the faintest trace of self-importance or conceit. On the river, in the dissecting rooms, or in the wards, he was always the same—strong, cheerful, and encouraging, with a touch of gaiety which disarmed the cynic without at all weakening influence over him.

In his surgical work Etherington-Smith was essentially sound. His temperament was not towards research, but towards activity in many other fields. Everyone felt that a great future was before him, and that he would as certainly become such an ornament to the profession of medicine as he had already become to the world of rowing. His popularity with colleagues, pupils, patients, and friends was simply the reflection of his own attitude towards the world; and the world is greatly the poorer by his death.

An intimate friend and colleague writes:—"Here, indeed, was a man. To know him was to love him. Personal beauty, physical strength, intellectual ability, and moral courage, all were his, gracefully and attractively blended. He was never self-conscious, yet always confident; a magnet ignorant of his magnetism, an Apollo who knew not vanity. Modest and generous, he touched nothing which he did not adorn—

'As the gods loved him, he died young.'

He is gone on. For us a blank remains; for him there are no regrets. In the treasury of our memories he lives, a priceless heirloom."

The funeral took place at Putney Vale Cemetery on the afternoon of April 23rd, after a memorial service at the Church of St. Bartholomew the Great, Smithfield, which was attended by a very large number of friends.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Josephus R. Lemen, formerly professor of respiratory diseases in the University of St. Louis.—Dr. Prince A. Morrow, formerly professor of genito-urinary diseases in the Bellevue Hospital Medical College, New York.—Dr. P. H. Hiss, professor of bacteriology in the Columbian University College of Physicians and Surgeons, New York.—Dr. T. Perrin, *privat-docent* of urology in the University of Lausanne.—Dr. Algernon T. Bristow, clinical professor of surgery in Long Island College Hospital, Brooklyn.—Dr. James L. Thompson, formerly professor of ophthalmology and otology in Indiana University School of Medicine, Indianapolis.—Dr. Rowland G. Curtin, formerly lecturer on Physical Methods of Diagnosis in the University of Pennsylvania, Philadelphia.—Dr. J. G. Egger, medical councillor of Landshut, who was well known for his geological and palæontological researches, at the age of 89.—Dr. Olto, who together with Dr. Neumann, professor of hygiene in Giessen, made many important investigations on the nature of tropical diseases.—Dr. T. E. Moret, *extraordinary* professor of ophthalmology in the University of Buenos Aires.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Algeria:* Dr. Argaud has been promoted to the chair of Histology.—*Baltimore (University of Maryland):* Dr. J. A. Nydegger has been appointed Lecturer on Diseases of Tropical Countries.—*Basle:* Dr. Redinger, professor of pathological anatomy, who was offered the chair of that subject in the University of Königsberg, has decided to remain in Basle.—*Berlin:* Dr. Georg Levinsohn, *privat-docent* of Ophthalmology, has been granted the title of Professor.—*Göttingen:* Dr. Fritz Eichelberg, *privat-docent* of Psychiatry, has been granted the title of Professor.

SAMARITAN HOSPITAL, BELFAST.—As the result of a recent amateur musical and theatrical entertainment given in the Belfast Hippodrome, a total sum of £212 6*s*. 9*d*. has been handed to the treasurer of the Samaritan Hospital, Belfast, towards the reduction of a debt of £335.

CENTENARIAN.—The late Mrs. Margaret King, who recently died at Southport aged 101 years, was a native of Bristol, and was born there on June 21st, 1811. She was a niece of the Bristol poet, Robert Lovell, who married one of the three sisters, the Misses Fricker of Bath, Southey and Coleridge respectively marrying the other two.

COUNTY OF CORNWALL MEMORIAL TO THE LATE KING EDWARD VII.—The sum of £2588 has been subscribed in Cornwall as a memorial to the late King. Of this, £2500 have been invested to form a fund in aid of hospitals, nursing associations, and sanatoriums in the county. A memorial tablet to King Edward, presented by the committee, was formally unveiled in Truro Cathedral on April 19th.

ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, BRIGHTON.—The governors of this hospital have decided to name in perpetuity the X ray department "The Louise Sassoon Electrical and X Ray Department," after Miss Louise Sassoon, in consequence of her generosity to that department. The governors feel that the additions to the appliances will be most beneficial to the patients.

THE AFTER-CARE ASSOCIATION.—The annual report of this association shows that during the year ending December, 1912, 391 cases of poor persons discharged as recovered from asylums were dealt with. The total income was £1998. The work done by this society is worthy of the strongest support, as personal care and individual attention are bestowed on each case, and it is the only charity of its kind in the United Kingdom. The offices are at Church House, Dean's-yard, Westminster, S.W.

BRITISH SCIENCE GUILD.—A report has been drawn up by the medical committee of the British Science Guild and adopted by the executive of that association dealing with the Milk and Dairies Bill. The British Science Guild, while regarding the Bill with general approval, find that its largely permissive character will allow local authorities to ignore the powers conferred upon them. They consider that the medical officer of health is placed in an extremely difficult position in having to criticise and possibly to be instrumental in fining persons who can take his appointment away from him. Lord Haldane is the President of the association and the honorary secretaries are Sir Alexander Pedler and Dr. F. Mollwo Perkin (199, Piccadilly, London, W.).

THE METROPOLITAN ASYLUMS BOARD: THE APPOINTMENT OF A BACTERIOLOGIST.—The hospitals committee of the Metropolitan Asylums Board have reported that, in regard to a proposed appointment of a research bacteriologist, it had considered the conditions which the Local Government Board attached to its approval—namely that the officer should be designated "pathologist," that the appointment should be annual in the first instance, and that at first the officer should not be required to devote his whole time to the Board's service. The committee agreed with the Board as to making the appointment annual in the first instance; it thought, however, that the title of the office should be "research pathologist," and it was strongly of opinion that a whole-time officer should be appointed The committee quoted in support the opinion of the Board's consultative bacteriological adviser, Professor G Sims Woodhead, who wrote that the pathologist must be able to devote the whole of his time, thought, and energy to the solution of problems which had hitherto baffled many men giving their whole attention, though, perhaps, under less favourable conditions than those under which the proposed officer would work It was decided to place these views before the Local Government Board

UNIVERSITY OF MANCHESTER—The committee of the Ashby Memorial Scholarship has decided, instead of selecting a subject for research this year, that candidates shall on application for the scholarship propose their own subjects The scholarship was founded for the promotion of the study of diseases of children, and the research proposed must be in this subject The award of the scholarship will be made early in July Applications may be sent to the registrar on or before June 30th The announcement of an award previously made was due to an oversight as regards the regulations as to dates Owing to the early date of Whitsuntide the examinations for entrance scholarships and exhibitions will begin on May 19th next and be continued on succeeding days

THE *Liverpool Daily Post and Mercury* has succeeded in collecting £2000 in ten days for the purpose of supplying radium for the treatment of cancer at the Liverpool Royal Infirmary

THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE, 1913

SECTION OF SURGERY

THE Surgical Section is under the presidency of Sir W Watson Cheyne, Bart, F R S, and is connected with the subsections of Orthopædics, presided over by Mr Robert Jones, of Liverpool, and Anæsthetics, with Dr Dudley Buxton in the chair The meetings of the principal section will be largely attended, and will take place in the large Lecture Theatre on the ground floor of the Imperial College of Science and Technology

The list of set subjects for discussion are · 1 The Operative Treatment of Malignant Disease of the Large Intestine, excluding the Rectum, introduced by Professor Bastianelli, of Rome and by Professor Korte of Berlin 2 A discussion conjointly with the Section of Neuropathology on the Treatment of Tumours of the Brain and the Indications for Operation Professor Bruns of Hannover, Professor Harvey Cushing, of Harvard University, Professor von Eiselsberg, of Vienna, and Dr Howard Tooth will speak 3 A discussion on the Diagnosis and Treatment of Early Renal and Vesical Tuberculosis will be held jointly with the Section of Urology It will be introduced by Professor Legueu, of Paris, by Professor Rochet of Lyons, and by Dr Wildbolz, of Berne 4 The Surgery of the Arterial System will be reported upon by Professor Matas, of New Orleans, and by Professor Oppel, of St Petersburg 5 Intrathoracic Surgery will be considered on the last day of the Congress by Professor Sauerbruch, of Zurich, and Professor Tuffier

Papers will also be read by individual members Many have already been received, but it is noteworthy that they all come from abroad, and no English surgeons have yet offered any contribution There seems too, to be some ill-defined idea that the section is a gathering of London surgeons who are inviting their colleagues from other countries This is in no sense true It is the surgeons of the United Kingdom who are endeavouring to make an international congress as truly representative of British surgery as is possible The vice presidents, the council, and the secretaries of the section have been chosen, therefore with a due regard to representation of surgery in England Scotland, Ireland, and His Majesty's overseas dominions

The sectional work of the social side of the Congress is also in an advanced state of preparation, thanks largely to the energy of an influential ladies' committee under the direction of Lady Watson Cheyne It is proposed amongst other things, that a party of 100 surgeons and their wives shall be shown round the University of Cambridge on Saturday, August 9th, where they will be received by Mr Howard Marsh, the Master of Downing College, who is also professor of surgery in the University By the kind permission of the Master and Warden of the Company there will be a personally conducted party of 70 surgeons and their wives or daughters to Barbers' Hall, which is situated in the heart of the City of London and is rarely accessible to visitors The hall is interesting from its historical associations as well as its architecture and art treasures It has remained on the same spot for at least 900 years, and thus represents the cradle of English surgery No sectional dinner will be held, but this omission will be more than supplied by the offers of private hospitality which have already been received The Hon W F D and the Lady Esther Smith have invited members of the section to a garden party at Henley, and the ladies' committee will hold an afternoon reception in the Botanical Gardens

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS

Housing of the Working Classes Bill

IN the House of Commons on Friday, April 18th the second reading of the Housing of the Working Classes Bill was carried It follows the lines of the measure brought in last year by SIR A GRIFFITH BOSCAWEN A special department of the Local Government Board is proposed to be created for the purpose of seeing that the Housing Acts are enforced Grants to the amount of £1 000 000 are also suggested in order to aid in erecting suitable dwellings Mr BURNS the President of the Local Government Board declined to devote public money in this direction but was willing that the Bill should be allowed to proceed to a committee in order that its administrative provisions might be examined

The Medical Officers of Health Superannuation Bill

The council of the Royal Sanitary Institute is petitioning Parliament in favour of this Bill which has been introduced by SIR PHILIP MAGNUS, believing that it would tend to the better administration of the Public Health Service if superannuation were provided for public health officers

The Select Committee on Patent Medicines

The Select Committee on Patent Medicines of the House of Commons had a further meeting on Thursday, April 17th Evidence from the standpoint of the owners of proprietary medicines was submitted

HOUSE OF COMMONS

WEDNESDAY, APRIL 16TH

Medical Contracts in Scotland

Major HOPE asked the Secretary to the Treasury whether he would [illegible]

Motor Ambulances

SIR JOHN RANDLES asked the Chancellor of the Exchequer whether [illegible]

The Health of Naval Cadets

Major GASTRELL asked the Civil Lord of the Admiralty whether anything had been done to eradicate the danger of disease at the Royal Naval College Osborne and whether, if nothing could be done to [illegible]

Lord **CHARLES BERESFORD**: Is it not a fact that these epidemics are very constant at Osborne and more constant than in ordinary schools of public instruction in the country, and can he see his way to do something to alter that position?—Mr. **LAMBERT**: This question is under the constant care of the Admiralty. I understand that boys when they enter Osborne at 12½ years of age are peculiarly susceptible to these diseases.

Lord **CHARLES BERESFORD**: Will the honourable gentleman answer my question? Are not epidemics at Osborne more constant than they are in the ordinary public schools of the country?—Mr. **LAMBERT**: Not if you take the age at which the boys enter into consideration. I shall be very happy to consider any information which the noble lord can give me.

Preservatives in Cream.

Mr. **CHARLES BATHURST** asked the President of the Local Government Board whether his attention had been drawn to the action of the Westminster City Council in threatening proceedings under Section 3 of the Sale of Food and Drugs Act, 1875, against retail dealers and stores, in respect of the sale of preserved cream containing less than 22 grains of boracic acid to the pint, on the ground of injury to health; and, whether, seeing that Dr Hamill, the medical inspector of the Board, recommended in a recent report to the Board, after elaborate inquiry, that a quantity up to 28 grains might be permitted in the summer months without injury to health, the Board would issue a circular advising local authorities that no proceedings ought to be taken provided sales were made in compliance with the recently published regulations and where the quantity of preservative did not exceed Dr. Hamill's recommendation.—Mr. **BURNS** said in reply: The answer to the first question is in the affirmative. I do not consider it is necessary, at any rate at the present stage, to issue such a circular as the honourable Member indicates.

Rural Housing.

Lord **HENRY CAVENDISH-BENTINCK** asked the President of the Local Government Board whether his attention had been directed to the report of Dr. Webb to the Kingsbridge (Devon) rural district council, where he stated that one-eighth of the cottages in the district were unfit for human habitation, but that there was nowhere for the people to go if these we[illegible] discussion took place, but no action was taken [illegible] what action he intended to take in the matter.—[illegible] I have not yet received the report of the medical officer of health for the Kingsbridge rural district for the year 1912, and the latest report in my possession did not indicate the existence of any such unsatisfactory conditions as to render necessary action on my part. I will look into the matter.

Lord **HENRY CAVENDISH-BENTINCK** asked the right honourable gentleman whether his attention had been called to the report of the medical officer of health for the Sedgefield rural district council in respect to houses at Trimdon Grange and Trimdon Colliery, where he stated that after inspection of 63 houses he found all but six unfit for human habitation on account of bad sanitation and ventilation, and recommended to the council that closing orders should be issued and that the council should erect new dwellings for the people displaced, and that the rural district council resolved to apply for closing orders but referred the question of the erection of new cottages to the Trimdon sanitary committee; and whether he would state what steps had been taken to accommodate the tenants thus displaced.—Mr. **BURNS** replied: The council decided in January last to build 25 houses, and applied to the Local Government Board for sanction to a loan for the purpose, but they have not yet furnished the particulars necessary before the application can be further dealt with. I am sending a further letter to them on the subject.

Lord **HENRY CAVENDISH-BENTINCK** asked the right honourable gentleman whether his attention had been called to a special report of the housing committee appointed by the Ramsbury (Wilts) rural district council, which stated that out of 52 cottages in the village of Axford ten had one bedroom only, whilst only seven had three bedrooms; that five cottages were overcrowded, three unfit for habitation, seven were dilapidated, and 26 needed general repairs; and that, while the Ramsbury rural district council admitted the need for more cottages, they had decided to defer action in regard to building; and whether he intended to take any steps in the matter.—Mr. **BURNS** said in reply: I have been in communication with the Ramsbury rural district council in regard to the need for the erection of cottages at Axford for some time, and on the 31st ultimo the chairman had an interview at the Local Government Board in regard to it. The matter will not be lost sight of.

Lord **HENRY CAVENDISH-BENTINCK** asked the right honourable gentleman whether his attention had been directed to the report of the medical officer of health for Cornwall, in which he stated that the problem of consumption was largely the problem of housing, yet bad housing was suffered to continue; that housing in Cornwall constituted one of the greatest barriers to sanitary progress; that many cottages had no backyards and no sanitary conveniences; that many local authorities had not yet adopted housing schemes where it had clearly been their duty to do so; that Dr. Burnet further reported a dearth of houses in eight of the 16 rural districts of the county—namely, Boscastle, Camelford, Liskeard, St. Colomb, St. Austell, Truro, East Kerrier, and West Penwith—whilst it was stated in regard to the Bodmin rural district area that many houses should be condemned absolutely, as they rendered their occupants much disposed to phthisis; and whether he would state what action, if any, had been taken with regard to these areas.—Mr. **BURNS** replied: I have seen the report for 1911, and note that the county medical officer of health is fully alive to the powers of the county council under Sections 10, &c., of the Housing, Town Planning, &c., Act, 1909 I am keeping an eye on these districts in connexion with the reports of the local medical officers of health for 1912, which I am now receiving, and I am with the county medical officer of health in hoping that it may not be necessary for the county council to use their powers under the sections.

Mr. **C. DUNCAN**: Can the right honourable gentleman bring pressure to bear upon these local authorities?—Mr. **BURNS**: We are consistently doing that.

Supply of Government Calf Lymph.

Mr. **COURTHOPE** asked the President of the Local Government Board whether, in view of th[illegible]ood quality as the Governm[illegible]ons of independent means [illegible] he would allow medical practitioners to purchase Government vaccine for use upon their private patients.—Mr. **BURNS** wrote in reply: This matter has been considered by the Local Government Board on more than one occasion, but they have not hitherto found it practicable to take action in the direction suggestion.

THURSDAY, APRIL 17TH.

Sleeping Sickness South of the Zambesi.

Answering Mr. **GINNELL**, Mr. **L. HARCOURT** said that there was no reason to suppose that sleeping sickness was generally prevalent south of the Zambesi.

MONDAY, APRIL 21ST.

Medical Panels in Ireland.

Sir **JOHN LONSDALE** asked the Secretary to the Treasury to state in which counties and county boroughs in Ireland panels of doctors had been formed in connexion with the National Insurance Act; and to explain why circulars were issued by the Irish Insurance Commissioners stating that panels had been formed in every county and county borough in Ireland when panels had not been formed in many cases.—Mr. **MASTERMAN** replied: I am informed by the Irish Insurance Commissioners that no such circulars as are referred to in the question have been issued by the Commissioners. I understand the honourable baronet to refer to a paragraph in a specimen copy of a form that is intended to be used when the panel system is working, which was issued to doctors for the purpose of explaining their duties under the panel system. That it was not intended as a statement that panels had already been formed is shown not only by the character of the form, but by the fact that it was issued to the doctors, who alone received it before the date by which they were asked to have sent in their names for the panels. I am informed by the Commissioners that sufficient doctors have already intimated their willingness to serve to enable panels to be formed in the following areas:—County boroughs: Belfast, Cork, Londonderry. Counties: Antrim, Armagh, Clare, Cork, Donegal, Down, Fermanagh, Londonderry, Longford, Mayo, Monaghan, and Sligo.

Certification Rates under National Insurance Act in Ireland.

Sir **JOHN LONSDALE** asked the Secretary to the Treasury whether he was aware that the conjoint committee of the Irish Medical Association and British Medical Association received a definite pledge that a minimum capitation rate of 2s. 6d. would be provided for certification in the event of medical benefits for Ireland being deleted from the National Insurance Act; and if whether, in redemption of this pledge, he intended to make a further grant to enable the Irish Commissioners to meet the financial difficulties in the way of the efficient working of the Act in Ireland.—Mr. **MASTERMAN** replied: The answer to the first part of the question is in the negative. The second does not therefore arise.

TUESDAY, APRIL 22ND.

Free Choice of Medical Men.

Sir **J. D. REES** asked the Secretary to the Treasury whether the Bill to amend the Insurance Act would provide for free contracting out, for real choice of medical attendant, and for exclusion of married women outworkers.—Mr. **MASTERMAN** said in reply: The answer is in the negative. The first and third proposals of the honourable gentleman are open to the gravest objections, and the second is already provided for in the existing Act.

Viscount **VALENTIA** asked the right honourable gentleman whether he was aware that much indignation was felt by a considerable number of railway employees resident in the city of Oxford who were unable to avail themselves, under the provisions of the National Health Insurance Act and [illegible] relating thereto, of the services of a doctor who [illegible]o, though willing to go upon the p[illegible] having obtained the consent of th[illegible] precluded by the intervention of the panel doctors, in spite of his frequent assurances that every insured person had a right to choose his own doctor; and would he take steps to provide for the services of the doctor hitherto employed by these men being made available for them.—Mr. **MASTERMAN** answered: I have made inquiries of the Oxford Insurance Committee on this case. Acceptance of a limited number of insured persons by a doctor on the panel is only possible where attendance by doctors on the panel is assured for all insured persons in the area, and therefore can only be granted by an Insurance Committee with the consent of the doctors on the panel. The responsibility for treatment of the insured persons must be a collective one, and no one doctor can be allowed to select good lives amongst insured persons with the same remuneration per head as those who would accept a general average.

Insured Persons and Change of Medical Men.

Mr. **JOHN TAYLOR** asked the Secretary to the Treasury whether he was aware that a certain number of insured persons connected with the lodges of the Durham Miners' Association were desirous of changing their doctor; that, when they signed for their present doctors, it was on the understanding that it held good for three months only; and that objection was now taken by the Insurance Commissioners to the transfer on the ground that the present arrangements held good for 12 months; and whether he would inquire into the matter with a view to the initial understanding being adhered to and the men being allowed to make the change of doctor desired.—Mr. **MASTERMAN** said in reply: My attention has been drawn to the matter to which my honourable friend refers, and I am investigating the circumstances referred to. In general, insured persons may change their doctors within the year either by consent of doctor and patient or by consent of the Insurance Committee on complaint of the medical treatment received.

WEDNESDAY, APRIL 23RD.

Contributions to Medical Aid Associations.

Captain **KNIGHT** as[illegible] the Treasury whether there was any obligation on [illegible] to make payments, in advance or otherwise, [illegible], approved under the Act, on account of members of Approved Societies who desired to take their medical benefit through such associations; and, if so, whether such payments ought to be made on the same dates as those made to panel doctors.—Mr. **MASTERMAN** wrote in reply: An Insurance Committee may contribute towards the expenses of the treatment furnished by an approved institution to insured persons who are members of the institution [illegible]

institution on any date that may be convenient.

BOOKS, ETC., RECEIVED.

ARROWSMITH, J. W., LIMITED, Bristol. SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.

Nervous Breakdowns and How to Avoid Them. By Charles D. Musgrove, M.D.

BAILLIÈRE, J. B. ET FILS, Paris.

Les Epanchements du Péricarde. Étude Clinique et Thérapeutique. La Fonction épigastrique de Marfan. Par le Docteur Germain Blechmann, Ancien Interne en Médecine des Hôpitaux de Paris Price not stated.

Nouveau Traité de Chirurgie Clinique et Opératoire. Publié en fascicules sous la Direction de A Le Dentu et Pierre Delbet. XXXIII. Chirurgie Générale et Chirurgie Orthopédique des Membres Par Pl. Mauclaire, Professeur Agrégé à la Faculté de Médecine, Chirurgien de la Charité. Price, paper, Fr. 10, boards, Fr. 11.50.

BAILLIÈRE, TINDALL, AND COX, London.

Nursery Notes for Mothers. By C. Willett Cunnington, M B, B C. Price 2s. 6d. net

[illegible] By E. P. Minett, M D., [illegible], Assistant Government [illegible]iologist, British Guiana.

BALE (JOHN), SONS AND DANIELSSON, LIMITED, London.

Collected Papers reprinted from the Journal of the Royal Army Medical Corps. Volume I. December, 1912. Price not stated

"Verb. Sap" on Going to West Africa, Northern Nigeria, Southern, and to the Coasts. By Capt. Alan Field, F.R.G.S. Price 2s. 6d net.

The Practitioner's Vade Mecum (P.V.M.) or How to Cut the Drug Bill. By A. Herbert Hart, M S, Doctor of Medicine of the University of Durham. Third or National Insurance Edition. Price 2s. 6d. net.

[illegible] By N. Corbet Fletcher, B A., [illegible] an Introduction by James [illegible] 6d. net.

[illegible]ans to the Nose and Nasal Accessory Sinuses. By Prof Dr. A. Onodi, Director of the Rhino laryngological Clinic in the University of Budapest English Translation by Dr. Dan Mackenzie, London Price 8s. 6d net.

CHAPMAN AND HALL, LIMITED, London

The Night Nurse. By the Author of "The Surgeon's Log." Price 6s.

CHURCHILL, J. AND A., London.

[illegible]

M.R.C.P. Lond. [illegible]

COLLINGRIDGE, W. H. AND L, City Press Office, Aldersgate-street, London, E C.

The City of London Year Book and Civic Directory for 1913. Price 5s net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALLEN, MARIA SHEPHERD, L.R.C.P. [illegible] has been appointed House Surgeon at [illegible]

BURD, GEORGE VANHOUSE, L R C P, [illegible] reappointed District Medical Offi[illegible] Board of Guardians

CA[illegible]

DA[illegible]

FE[illegible]

HO[illegible]

HU[illegible] County and Wenlock Borough Asylum.

LOCKYER, CUTHBERT, M.D, B S. Lond., F.R.C.S. Eng., has been appointed Surgeon to In-patients at the Samaritan Free Hospital for Women.

[illegible] Surgeon to St. [illegible] Home, Lloyd-square.

SHAW, W. V., M.D. Oxon., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Malton District of [illegible]

[illegible] has been appointed Certifying [illegible] Workshop Acts for the Swinton [illegible]

[illegible] has been appointed House [illegible]

YE[illegible] Certifying [illegible] Moreton-in-[illegible]

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERYSTWYTH INFIRMARY AND CARDIGANSHIRE GENERAL HOSPITAL.—House Surgeon and Secretary. Salary £150 per annum, with board and washing

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence

BELFAST, QUEEN'S UNIVERSITY.—Lectureship in Ophthalmology and Otology

[illegible] Junior House Surgeon. Salary [illegible] laundry.

[illegible]—Assistant School Medical Officer.

[illegible]D WORKHOUSE.—Senior Resident [illegible] £130 per annum, with board, apartments, &c

[illegible]ird House Surgeon.

[illegible] Assistant Medical [illegible]rtments, board, and washing

BIRMINGHAM, WEST HEATH HOSP[illegible]

BIR[illegible] and residence.

BRADFORD, CITY OF.—Medical Officer of Health, Salary £800 per annum.

[illegible]sistants (male and female) [illegible] 350 per annum each. Also [illegible]

BRIDGWATER HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, lodging, and washing

BRI[illegible]

BRI[illegible] Surgeon for six months Salary at rate of £75 per annum, with board, laundry, and apartments

BROMSGROVE, WORCESTERSHIRE ASYLUM.—*Second Assistant Medical Officer* Salary £200 per annum, with quarters, board, washing, and attendance.

BURTON-ON-TRENT INFIRMARY.—House Surgeon. Salary £120 per [illegible]

[illegible] HOSPITAL.—Resident [illegible] per annum, with board, [illegible]

[illegible] Assistant House Physician for six months. Salary £100 per annum, with apartments, board, and laundry.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, washing, and attendance

CARDIFF ROYAL HAMADRYAD SEAMEN'S HOSPITAL.—Medical Superintendent Salary £250 per annum, together with residence, firing, and lights

[illegible] Surgeon, unmarried. [illegible]ing.

[illegible]—Locum Tenens Medical [illegible] 4 guineas per week, with [illegible]

[illegible] Surgeon. Salary £100 [illegible]ashing

[illegible] Medical Superintendent. Salary £[illegible]00 per annum, with house

DERBY, DERBYSHIRE ROYAL INFIRMARY.—House Physician Salary at rate of £100 per annum, with apartments, board, &c.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Prof. E. H. G[illegible]: The Capacity for Heat of Metals [illegible]—Mr. A. Robertson and Mr. G. Cook[illegible] Elastic to the Plastic State in Mild Steel (communicated by Prof. J. E. Petavel).—Mr. F. P. Worley: Studies of the Processes Operative in Solutions. XXVIII., The Influence of Acids on the Rotatory Power of Cane Sugar, of Glucose, and of Fructose (communicated by Prof. H. E. Armstrong).—Mr. H. G. J. Moseley: The Attainment of High Potentials by the Use of Radium (communicated by Prof. Rutherford).—Mr. E. Marsden and Dr. T. S. Taylor: The Decrease in Velocity of α Particles in Passing Through Matter (communicated by Prof. Rutherford).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MONDAY.

SPECIAL MEETING OF FELLOWS OF THE SOCIETY: at 5 P.M.

Discussion:

On Alimentary Toxæmia: its Sources, Consequences, and Treatment. (Fourth Meeting.)

The discussion will be re-opened by Dr. William Hunter, and continued by Sir Bertrand Dawson, K.C.V.O., Dr. E Mellanby, Dr. Ettie Sayer, Dr. Sim Wallace, Dr. Bezly Thorne, Dr. Adamson, Dr. R. Murray Leslie, Mr. Lewin Payne, Dr. L. Wainwright, and Dr. R. Ackerley.

The Fifth Meeting will be held on Monday, May 5th, at 5 P.M., and the Sixth Meeting on Wednesday, May 7th, at 5 P.M.

SECTION OF ODONTOLOGY (Hon. Secretaries—Stanley P. Mummery, Robert McKay): at 8 P.M.

Casual Communication:

Mr. Warwick James: The Cure of Mouth-breathing.

Paper:

Professor Arthur Keith, F.R.S.: The Teeth of the Earlier Forms of Prehistoric Man.

TUESDAY.

SECTION OF MEDICINE (Hon. Secretaries—Robert Hutchison, H. Batty Shaw): at 8.30 P.M.

SPECIAL MEETING.

The President, Dr. Frederick Taylor, in the chair.

Dr. Gustave Monod (Vichy) will demonstrate on the Cinematograph the Possibilities of Teaching Biology with the Help of the Cinematograph, and among other things will show: (1) Heart in Action; (2) New Method of Demonstrating Heart Action by Cardiograms—i.e., "*Animated*" Diagrams; (3) Circulation of the Blood; (4) Digestion of Albumin, Fibrin, Starch; (5) Development, Fecundation, and Segmentation of Cells.

N.B.—All Fellows and Members of other Sections are cordially invited to be present.

THURSDAY.

SECTION OF OBSTETRICS AND GYNÆCOLOGY (Hon. Secretaries—W. W. H. Tate, T. W. Eden): at 8 P.M.

Annual Meeting.—Election of Officers and Council for Session 1913-1914.

Specimens:

Professor Munro Kerr: (1) Second Case of Ovarian Pregnancy; (2) Ruptured Rudimentary Gravid Horn.

Dr. C. E. Purslow: Round-celled Sarcoma of Ovary with Broad Ligament Cyst.

Dr. R. D. Maxwell: Vaginal Clamp for Wertheim's Operation.

Dr. Tate: Tubo-ovarian Cyst with Intra-cystic Malignant Papilloma.

Short Communications:

Dr. Napier Burnett: Placenta and Membranes, showing Bacterial Infection of the Chorion.

Dr. Arnold Lea: *Case of Puerperal Venous Thrombosis occurring after a Normal Labour.*

Dr. Russell Andrews: An Unusual Case of Rupture of the Uterus.

FRIDAY.

SECTION OF LARYNGOLOGY (Hon. Secretaries—Dan McKenzie, E. A. Peters): at 4.30 P.M.

Annual Meeting.—Election of Officers and Council for Session 19 3 1914.

Discussion on Recurrent Paralysis:

Opened by Dr. de Havilland Hall, Sir David Ferrier, and Dr. W. Permewan.

The following will show cases or join in the discussion:—The President (Mr. Herbert Tilley). Sir Felix Semon, Dr. Donelan, Dr. William Hill, Dr. P. Watson-Williams, Mr. E. D. Davis, Mr. T. Guthrie, and others.

CLINICAL SECTION (Hon. Secretaries—Charles H. Fagge, W. Essex Wynter): at 8 30 P.M.

Annual Meeting—Election of Officers and Council for Session 1913–1914.

Demonstration of Cases.

Paper:

Mr. R. J. Pye-Smith: A Case of Arsenic Cancer.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Discussion on the Treatment of Arterio-Sclerosis and High Tension (introduced by Dr. F. de H. Hall). Followed by Sir Lauder Brunton, Bart., Dr. S. West, Dr. B. Thorne, Dr. A. P. Luff, Dr. H. French, Dr. W. Armstrong, Dr. F. W. Price, Dr. O. K. Williamson, and Dr. A. Mantle.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

MONDAY.—8 P.M., Dr. D. Sommerville: Antiseptics and Disinfectants:—II., Chemical Substances used as Antiseptics and Disinfectants—Their Composition and Mode of Action. (Cantor Lecture.)

WEDNESDAY.—8 P.M., Dr. F. G. Ogilvie: *The Science Museum.*

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, N.

THURSDAY.—4.15 P.M., Clinical Meeting.

CHILD STUDY SOCIETY, LONDON, Royal Sanitary Institute, 90, Buckingham Palace-road, S.W.

THURSDAY.—7.30 P.M., Discussion on the Parent and the Adolescent (opened by Mrs. C. Brereton and Mr. C. B. Andrews).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. Shattock: Specimens illustrating Lipomata. (Museum Demonstration.)

FRIDAY.—5 P.M., *Prof. Keith: Specimens Illustrating the Formation* of Peritoneal Adhesions and Bands Before and After Birth. (Museum Demonstration.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. M. H. Gray: Clinique (Skin). 5.15 P.M., Lecture:—Dr. W. Hill: On Decompression of Pituitary Tumours by the Nasal Route (lantern demonstration).

TUESDAY.—4 P.M., Dr. H. L. Tidy: Clinique (Medical). 5.15 P.M., Lecture:—Dr. S. A. Owen: Enlargement of the Heart in Childhood.

WEDNESDAY.—4 P.M., Sir A. Pearce Gould, K.C.V.O.: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. A. F. Voelcker: Tetany in Childhood.

THURSDAY.—4 P.M., Mr. P. Turner: Clinique (Surgical). 5.15 P.M. Lecture:—Dr. F. L. Golla: The Organic Basis of Functional Neuroses.

FRIDAY.—4 P.M., Mr. A. MacNab: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Diseases of the Eye

TUESDAY.—10 A.M., Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. [illegible] Diseases of the Throat, Nose, and Ear. 2.30 P.M. [illegible]

WEDNESDAY.—10 A.M., Diseases of [illegible] Throat, Nose, and Ear. 2 P.M., [illegible] X Rays. Operations. Diseases of [illegible]

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Operations. Orthopædics. 2.30 P.M., Diseases of the Eye.

FRIDAY.—10 A.M., Gynæcologi[illegible] 2 P.M., Medical and [illegible] Throat, Surgical Clinics. X Rays. Nose, and Ear. 2.30 P.M., [illegible] of the

SATURDAY.—10 A.M., Diseases of Children. [illegible] 2 P.M., Medical Throat, Nose, and Ear. Diseases of the Eye. and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 2.15 P.M., Special 4.15 P.M., Sir Malcolm Morris: Skin. Lecture:—Mr. R. Carling: Cranial Injuries.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Surgical. 11 A.M., Mr. R. E Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. 2.15 P.M., Dr. F. Dr. A. D[illegible] Demonstration. [illegible] Mr. Cargill: Eye Clinique. Taylor: [illegible] Surgery. 4.30 P.M., Special 4.30 P.M., [illegible] Lecture:—Dr. J. Taylor: Ocular Paralysis in Nervous Disease.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Mr. J. Cantlie: Some Hepatic Tropical Ailments.

FRIDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations 2.15 P.M., Sir John Rose Bradford; Medicine 3.15 P.M., Mr. L. McGavin: Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Radiography.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY AND FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. K. Wilson: The Clinical Importance of the Sympathetic Nervous System.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney road, N E
MONDAY —4 P M, Dr E Pritchard Some Common Disorders of Nutrition in Infancy

ST JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W C
TUESDAY —6 P M, Dr J L Bunch Hereditary Syphilis and its Treatment

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle street, Piccadilly, W
TUESDAY —3 P M, Prof W Stirling Recent Physiological Inquiries —(1) Motion and Locomotion
FRIDAY —9 P M, Mr H G Plimmer Blood Parasites

ANCOATS HOSPITAL, Manchester
THURSDAY —4 15 P M, Dr C H Melland: Pernicious Anæmia (Post Graduate Clinic)

For further particulars of the above Lectures, &c, see Advertisement Pages

A DIARY OF CONGRESSES

THE following Congresses Conferences and Exhibitions are announced for 1913 —

April 26th-Nov 5th (Ghent) —International Exhibition
May 5th-8th (London Caxton Hall) —Parents National Educational Union Seventeenth Annual Conference
„ 15th-18th (Paris) —Twenty first Annual Congress of the Royal Institute of Public Health
May-October (Leipzig) —First International Building Exhibition
„ „ (London Crystal Palace) —Anglo German Exhibition
June 24th-27th (London Ontario) —Canadian Medical Association
„ 30th and July 1st (London, Guildhall) —Conference on Diet Cookery, and Hygiene in Elementary Schools and Institutions
July 7th-12th (Exeter) —Twenty-eighth Congress of the Royal Sanitary Institute
„ 16th-18th (Oxford Keble College) —Oxford Ophthalmological Congress
„ 21st-24th (London) —British Pharmaceutical Conference
„ 22nd 25th (Brighton) —Eighty first Annual Meeting of the British Medical Association
Aug 1st-3rd (Ghent) —Congress against the Adulteration and Deterioration of Foodstuffs
„ 4th and 5th (London Caxton Hall) —English speaking Conference on Infant Mortality
„ 6th-12th —(London) —Seventeenth International Congress of Medicine
„ 20th 26th (Ghent) —Third International Congress of Neurology and Psychiatry
Sept [illegible]
„ [illegible]
„ [illegible]
„ 22nd-28th (Milan) —Fourteenth International Anti-alcoholic Congress
(London) —Historical Medical Exhibition (Organised by Mr Henry S Wellcome)
(London, Earl's Court) —Imperial Services Exhibition
(Chicago) —Congress of the International Association of Refrigeration
(Washington) —Congress of American Physicians and Surgeons
(Buffalo) —Fourth International Congress of School Hygiene

In 1914 —
May 1st-Nov 1st (Lyons) —International Town Life Exhibition
Aug 10th-15th (St. Petersburg) —Twelfth International Congress of Ophthalmology
(London) —Anglo American Exhibition
(Vienna) —*Third International Congress for Professional Diseases*
(Auckland, N Z) —Australasian Medical Congress
(St Petersburg) —Third Mendeleeff Congress of Pure and Applied Chemistry and Physics
[illegible] ss of Americanists
[illegible] Congress on Industrial [illegible]

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff It is urgently necessary that attention should be given to this notice

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication

We cannot prescribe or recommend practitioners

Local papers containing reports or news paragraphs should be marked and addressed " To the Sub Editor "

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed " To the Manager "*

We cannot undertake to return MSS not used

MANAGER'S NOTICES.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W C, are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c, should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect

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SOLE AGENTS FOR AMERICA—MESSRS WILLIAM WOOD AND CO, 51, Fifth Avenue, New York, U S A

The following Journals magazines, &c, have been received — British Journal of Dental Science Canadian Practitioner and Review Surgical Clinics of the Mercy Hospital Chicago Indian [illegible] Canadian Medical [illegible] Medical Journal American Medicine Cleveland Medical Journal Calcutta Medical Journal American Journal of Obstetrics and Diseases of Women and Children, Albany Medical Annals Parasitology

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Mr. E. Arnold, Lond.; Dr. J. M. Atkinson, Lond.; Dr. Adolphe Abrahams, Lond.; After-care Association, Lond., Secretary of; Alnwick Infirmary, Hon. Secretary of; Dr. W. E. M. Armstrong, Lond.; Dr. John Aulde, Philadelphia.

B.—Mr. [illegible] Messrs [illegible] son, L[illegible] Lond.; Mr. T. Bell, Lancaster; British Diamalt Co., Lond.; Burton-on-Trent Infirmary, Secretary of; Messrs. Boult, Sons, and Maples, Liverpool; Dr. T. M. Bride, Manchester; Mr. E. Bougault, Paris; British Science Guild, Lond., Hon. Secretary of; Mr. H. N. Barnett, Knock; Mr. J. F. Briscoe, Alton; Dr. W. Cecil Bosanquet, Lond.; Dr. J. Blumfeld, Lond.; Professor M. Benedikt, Vienna; Dr. Arthur J. Brock, Edinburgh; "Bertram"; Dr. Bouffé, Lond.; Messrs. F. P. Baker and Co., Lond.; Birkenhead Education Committee, Secretary of.

C.—Nurse [illegible] Mr. F. [illegible] Sidney [illegible] Cliffe E[illegible] cal Superintendent of; Crown Agents for the Colonies, Lond.; Dr. E. Curtin, Bournemouth; Dr. H. P. Cholmeley, Westerham; Chelsea Hospital for Women, Lond., Secretary of; Dr. George Crichton, Lond.; Clerical, Medical, and General Life Assurance Society, Lond.; Dr. Antonio Comolli [illegible] Eugen [illegible] Boroug[illegible] Messrs. T. Christy and Co., Lond.; Cheltenham General Hospital, Secretary of.

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X.—X., Fulham.

A Lecture

ON

BIRTH PALSY: SUBLUXATION OF THE SHOULDER-JOINT IN INFANTS AND YOUNG CHILDREN.

Delivered at the Hospital for Sick Children, Great Ormond-street, on March 4th, 1913, as one of an Advanced Course of Lectures arranged by the University of London,

BY H. A T FAIRBANK, M S LOND, F R C S ENG,

SENIOR SURGEON TO OUT PATIENTS TO THE HOSPITAL, ORTHOPÆDIC SURGEON TO CHARING CROSS HOSPITAL, ETC

GENTLEMEN,—I have chosen the subject of birth palsy for my lecture this afternoon because the treatment of this condition does not appear to me to be adequately dealt with in text-books, and also because one result of this paralysis—namely, subluxation of the shoulder joint—has received little or no attention in this country My remarks will be based largely on a personal experience of cases seen during the last few years, of 40 of which I have notes I should like to say now how greatly I am indebted to my colleagues at this hospital, without their generous coöperation it would have been impossible for me to examine and treat so many as 35 cases in the last three years or so

BIRTH PALSY

Birth palsy—i e, palsy produced during and dating from birth—is due, as you know, to injury to the brachial plexus [illegible] It is now generally accepted [illegible] out by traction on the nerves, [illegible] or completely torn This traction is produced during labour by forcible deviation of the head and neck away from one shoulder which is temporarily fixed It is easy to see how such a condition can occur during a forceps delivery when one shoulder is hitched above the brim of the pelvis or in a breech presentation when the after coming head is born with difficulty The view that compression by the clavicle produced the damage has been disproved by experiments on the cadaver (Clarke, Taylor, and Prout[1]) and by observations on the situation of the lesion, which is usually well above the level of the clavicle, during the course of operations upon the plexus It is stated that the paralysis occurs equally (Tubby[2]) or nearly equally (Sherren[3]) in head and breech presentations My series of cases does not bear this out, since in 32 the vertex had presented, only 7 were breech cases, while one was turned and delivered by forceps In support of these figures, small though they are from which to draw conclusions, I might point out that though the first five cases do not represent nearly all the cases seen at that time, the last 35 include practically all the patients examined during the last three years or so and diagnosed as birth palsy, and therefore can be regarded as a consecutive series As a rule, this lesion only follows difficult labour, whether the vertex or breech presents, but in rare cases labour has been easy and normal In most of the vertex cases forceps were used Further details of the history of parturition obtained in this series will be given in the latter part of the lecture

Nature of Lesions

The actual damage to the nerve varies from slight tearing of the perineural sheath and hæmorrhage into the nerve itself, to complete tearing through of the nerve trunk The milder types of damage are by far the more common, for it is a well-established fact, only disputed by one or two (Bruns[4]), that in the majority complete recovery ensues The exact distance from the cord that the nerve yields seems to vary The anterior primary division of one or more nerves may be actually pulled out, more or less completely, from the spinal cord, which naturally also suffers Much more commonly the nerves or trunks of the plexus are torn, while Kennedy[5] found the commonest seat of all to be at the point of junction of the fifth and sixth cervical roots to form the upper trunk of the plexus I would refer you to a paper read by G F Boyer[6] in the Neurological Section of the Royal Society of Medicine last year, in which he gives a detailed account of the condition of the plexus, cord, and brain in a case of obstetric paralysis, a female who died at the age of 41 The traction to which the plexus had been subjected at birth had nearly succeeded in pulling all the component nerves out by their roots, the origin of the seventh cervical nerve from the cord being the point of greatest damage Boyer found the opposite side of the cord distorted and otherwise altered by the injury and resulting fibrotic changes He expresses the view that in severe and persistent cases of paralysis resulting from obstetric trauma the probability is that the cord is injured much more frequently than is generally considered Burr[7] in 1892 expressed a similar view However true this view may be, there is no doubt that the lesion usually consists of a partial tearing of one or more nerve trunks some distance from the spinal cord, and that the damage stops short of complete division

It follows from the mode of production of the damage in these cases that the upper part of the plexus—i e, the most obliquely running nerves—will suffer most, and this is undoubtedly the case *In the vast majority the paralysis* is of the upper arm or Erb Duchenne type, sometimes the whole plexus is affected, while very rarely only the lowest trunks are damaged, giving rise to the lower arm (Klumpke) type of paralysis with involvement of the cervical sympathetic The latt[illegible] shoulder in the [illegible] nerves that suffer [illegible] cases the seventh cervical is damaged in addition, while, as already stated, occasionally the whole plexus is damaged. It is a disputed point as to whether 6 C is necessarily damaged or not in a case showing the typical paralysis Harris and Low[8] maintain that division of 5 C alone can produce the characteristic paralysis It must always be remembered in connexion with the brachial plexus that it is subject to considerable variation It may be pre fixed or post fixed, and the exact distribution of a particular spinal nerve can only be determined with accuracy by direct stimulation of the nerve in the course of a surgical operation I am inclined to regard 6 C as a sort of odd job nerve since clinically it is often, if not usually, impossible *to distinguish between a lesion of 5 C alone* and one of 5 and 6 C together 5 C often provides the sole, or practically the sole nerve supply to certain muscles, whereas this is not the case with 6 C

As to the lesions I have myself observed in the course of operations on the brachial plexus in five cases in one (Case 5) which presented the typical paralysis, the 5 C alone was scarred and surrounded by fibrous tissue just at the outer border of the scalenus anticus The phrenic nerve was involved in the scar tissue 6 C was normal in appearance, and direct stimulation produced vigorous contraction of the pectoral and of some muscles in the forearm, but it was not considered advisable to disarrange the sterilised towels sufficiently to make further investigations Stimulation of 5 C produced contraction, definite but not vigorous, of the deltoid, particularly the anterior part the biceps and the supinator longus, and the infraspinatus almost certainly Contraction of the supraspinatus was uncertain The fifth cervical and phrenic nerves were freed from all scar tissue, and the sheath of the former was incised longitudinally In doing this one definite constricting band was divided Cargile membrane was wrapped round the nerve before the wound was closed The child was 10 months of age when operated upon and presented the typical vertically hanging arm, with the usual muscles still almost completely paralysed These muscles responded so feebly to the faradic current that in several the response was uncertain Paralysis of one side of the diaphragm was not looked for before operation, but soon after no sign of this could be made out

Case 2, an infant of 8 months, was seen in 1906 before I had realised the frequent occurrence of subluxation, but limitation of external rotation at the shoulder was noted No response to faradism could be obtained in the spinati and supinator longus, and only very feeble response in the deltoid, biceps, and extensors and flexors of the wrist and fingers The triceps and serratus responded briskly At the operation the whole plexus was found to be involved in one sheet of scar tissue I had the greatest difficulty in reaching

FIG 3

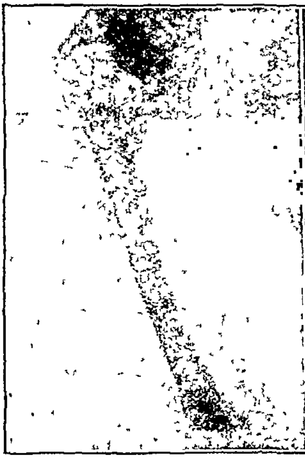

FIG 4

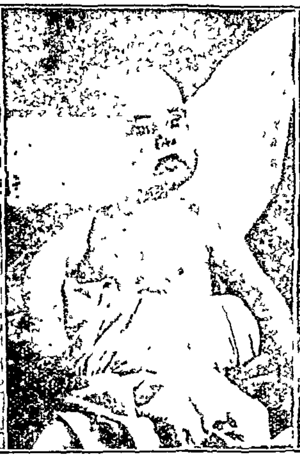

FIG. 5.

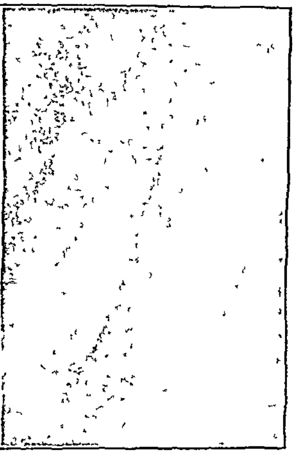

FIG. 6

FIG. 7.

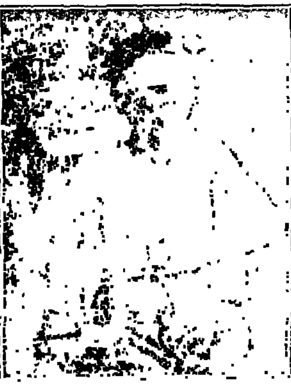

FIG 8

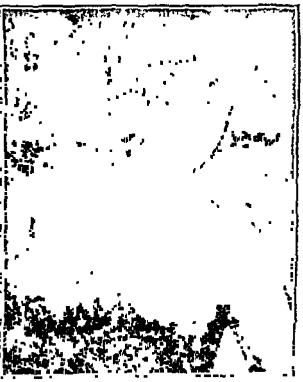

FIG 9

FIG 10

FIG 11.

traumatism at birth, but I believe the cases in this series to be all cases of subluxation secondary to paralysis. There is one possible exception, a child with double congenital talipes with very deficient musculature of the legs, double congenital drop-wrist and claw hand, and a left posterior subluxation of the shoulder. The shoulder condition agreed in every way with what was found in the other members of this series, and labour had been extremely difficult, but the association of the other deformities, undoubtedly of congenital origin, must throw some doubt on the case.

I will now give the grounds upon which I base my belief that in all the other cases in this series (28) a birth palsy has preceded and caused the subluxation.

1. A history of difficult labour. Of 23 in which the head presented, 21 are said to have been definitely difficult, and in 15 of these forceps were used. In 1 the arm was broken, in 2 the arm was over the head, and in 1 the face presented and the arm was over the head. Of the 5 breech presentations 3 were difficult. The clavicle was broken in one, in another the arms were extended, while in a third there was a contracted pelvis. In many the child was absolutely black at birth. In almost every case, therefore, labour was difficult, and damage to the plexus more than possible.

2. A history of paralysis after birth. In 23 out of the 28 the arm is said to have hung limp and vertical at first—i.e., to have been in the position seen in birth paralysis. In one the arm was behind the back. Six cases were actually seen soon after birth by one of my colleagues or myself and diagnosed as birth palsy. Another was certainly diagnosed at birth as a dislocation by the medical attendant, yet the arm hung limp from the shoulder, so it is likely that he was mistaken.

3. The plexus lesion proved in one case. In a case in which I operated upon the plexus, some time before I discovered the subluxation, the plexus was obscured throughout by a mass of fibrous tissue. This does not, of course, entirely discount the possibility of the dislocation and the plexus lesion having resulted from the same injury.

4. The presence in the series of all degrees of displacement of the head of the humerus; and at the same time while in some of the younger ones the subluxation was completely reducible, in the older cases the displacement was fixed. It was possible in the series to trace the gradual development and fixation of the displacement. In 5 the subluxation was completely reducible, and in 5 partially reducible.

5. The presence of some residual paralysis which could not possibly result from pressure of the displaced head of the humerus.

The following details of the series may be of interest before I pass on to the treatment. The two arms were affected in an equal number of cases. There were 20 males and 8 females. Half of the cases—i.e., 14—were under 1 year of age; between 1 and 2 years there were 5 cases; under 3 years, 2 cases; exactly 3 years, 1 case; 6 years, 1; 7 years, 2; 9 years, 10 years, and 11 years, each 1. The earliest age at which I have seen a reducible subluxation is 2 months and an irreducible subluxation 4 months. In 18 no sign of paralysis could be detected, and in most cases this was verified by electrical examination under an anæsthetic. Of the 10 remaining cases 7 showed some weakness of the extensor muscles on the back of the forearm, the common extensor of the fingers being the muscle most often affected. It is noteworthy how difficult it is to stimulate this muscle by an electrode, even in a case where it is certainly healthy. In one (Case 13) no response was obtained in the supinator longus, nor in the extensors of the wrist and fingers, but the child was very fat. Passive supination was not limited. The distribution of the paralysis seemed to correspond to the musculo-spiral nerve, and as the humerus had been broken at birth a little below the centre of the shaft the nerve was exposed in the arm, but was found to be normal. In another case (No. 26) the supinator and serratus magnus were paralysed, while the response of the upper part of the pectoralis major was doubtful (? 6 O.). In one (Case 2) there was a dislocation forwards and outwards of the head of the radius, apparently congenital, on the same side as the subluxation. One developed tubercular disease of a metacarpal bone, but the history was typical of a birth paralysis, and there was no sign, skiagraphic or otherwise, of tubercle of the shoulder.

Treatment.

This consists in reduction of the subluxation and retention of the limb in some form of apparatus for a sufficient time to allow the stretched tissues, capsule and muscles, at the back of the joint to contract and recover their normal condition. This period of fixation is followed by massage and exercises, passive and active, for an indefinite period.

As already stated, in 5 complete reduction was possible; these were all treated on the splint that I have shown you, together with massage and exercises. Reduction is brought about simply by external rotation of the humerus; therefore this movement, and external rotation combined with extension with the arm at a right-angle to the trunk, must be the chief passive manipulation performed by the mother.

Of the remaining cases, in 5 an attempt was made to reduce the subluxation by manipulation under an anæsthetic, as practised and recommended by Whitman.[13] The elbow is carried backwards, the arm being at a right-angle to the chest, while a thumb is placed behind the head of the humerus to act as a fulcrum. When reduction is accomplished and the tissues in front are thoroughly stretched, external rotation is gradually obtained and then full adduction. It is not always possible to obtain complete reduction at the first sitting. In one case I manipulated the shoulder on three occasions, in two cases twice, and in two once, but without satisfaction. Not once did I obtain sufficiently free external rotation, though the head could be placed in the glenoid cavity. Although I am accustomed to using considerable force in the reduction of congenital dislocations of the hip-joint, I never dared use sufficient rotary force to overcome all the muscular contracture for fear of twisting off one or other epiphysis of the humerus. In every one of these cases an open operation was eventually performed. Whitman admits that relapse is prone to occur and has to be carefully guarded against. By the open method I am about to describe this tendency to relapse is very greatly diminished if not entirely done away with. In all, 18 cases have been treated by open operation.

Operation.

The joint is reached through the usual anterior incision for excision of the shoulder, commencing at the clavicle and passing downwards and outwards in the interval between the deltoid and pectoral. After the skin has been excluded by clamping a sheet of muslin or lint to the margin of the incision, the cephalic vein is found and, as a rule, clamped above and below, the intervening portion being removed. The interval between the deltoid and pectoral is opened up and the muscles are retracted. The inner margin of the deltoid, close to its origin, may be divided for a short distance if the exposure of the deeper parts is inadequate. The long head of the biceps is then defined in its groove, the arm being rotated out to bring the groove forward. As a rule the upper margin of the flat pectoral tendon is nicked to enable this to be more easily done. The capsule is now incised in the line of the tendon as it passes inwards just above the tuberosities and the tendon exposed. The preliminary exposure of this tendon lower in the groove is simply to facilitate this exposure higher up. A bridge of tissue is left between the tuberosities to retain the tendon in its groove. The tendon is usually slender and easily damaged. All the capsule lying in front of and below the tendon is now divided, including the tendon of the subscapularis muscle which is closely connected with it. The arm should be forcibly rotated out by an assistant. If this tendon is cut close to the lesser tuberosity there is no danger of wounding the large vessels or nerves. If it is thought to be necessary, an aneurysm needle can be passed down beneath these structures from the hole made in the capsule above, and its point pushed forwards just below the tendon of the subscapularis, and then this muscle and the capsule divided upon the needle. It will now be found that external rotation is free and can be accomplished to the full extent, while this movement is accompanied by reduction of the dislocation. The head of the humerus rotates forwards and its cartilaginous surface is seen through the hole in the front of the joint. By redislocating the head and retracting the margins of the capsule a fair view of the glenoid cavity can be obtained. Adduction will still be imperfect, so the coraco-humeral ligament, which can be shown to be definitely tight, and also the supraspinatus are divided on an aneurysm needle passed beneath them to avoid chipping the head of the humerus. Sometimes the anterior fibres of the infraspinatus are probably divided before satisfactory adduction is obtained. The only vessel likely to give any trouble is the anterior circumflex. The deltoid and pectoral are brought together with a continuous catgut suture and the wound closed with a subcuticular thread stitch. The pronators of the forearm, if shortened, should be stretched. In three of my earlier cases the coracoid process seemed to project outwards abnormally and obscure the view, so it was divided temporarily and brought together again at the end of the operation with wire or fishing gut. The glenoid, as is to be expected, is shallower than normal. In a girl of 9 years the glenoid was even convex and a fibro-cartilaginous ridge passed downwards and backwards from it; this was probably an attempt at the formation of a false socket, but its exact extent could not be ascertained.

The arm is put up in the position suggested by Whitman in plaster-of-Paris (Fig. 11). The elbow is put to the side and well back, only a thin layer of wool lying between the arm and chest, the elbow is bent at a right angle, and the forearm is supinated fully and directed well outwards—i.e., the humerus is rotated out fully. I usually put a pad of cotton wool behind the upper end of the humerus and another over the shoulder to keep down the scapula and prevent recurrence of the abduction. The arm is retained in this position for three months, the plaster being renewed when the wound is dressed on the tenth or fourteenth day, and again later if necessary. After removal of the plaster, massage, passive movements, particularly extension of the shoulder, external rotation of the humerus, and supination are persevered in for many months. If only the services of a skilled masseuse can be obtained the result should be excellent. Unfortunately, among hospital patients there are few who can make use of their opportunities for regular massage, so the results I have obtained are not so good as they ought to be. Nevertheless, the results are, in my opinion, sufficiently good to justify amply the operative treatment. In every case treated by open operation the head of the humerus is now in its normal position in relation to the scapula, and the external rotation of the humerus is maintained. (Figs. 9 and 10.) Parents have been satisfied with the advantage to the child resulting from the operation, even in cases that I know could have been much further improved by prolonged and skilled massage, &c. In those few that have received more adequate after-treatment the results are excellent.

It must be remembered that the shoulder joint is probably the very worst joint in which to obtain free mobility in a child. It is well known how readily a child will restore, unaided, perfect movement to a joint after acute arthritis. In the case of the shoulder a young child can do practically anything he wants to without moving the shoulder-joint itself, the scapula being so freely movable. As a result the infant does little or not[illegible] in fact, he hinders the [illegible] ing to the utmost. [illegible] limb after operative re[illegible] much better use of his hand and forearm, the muscles of which are usually healthy.

Finally, it seems to me obvious that massage and exercises are to a large extent wasted on an arm crippled by a subluxation of the shoulder, and that replacement of the head of the humerus in the glenoid cavity must precede all other efforts to restore the function of the limb.

In conclusion, I wish to offer my sincere thanks to the Senate of the University for the honour they have done me in inviting me to deliver this lecture.

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LITERARY INTELLIGENCE. — Messrs. Baillière, Tindall, and Cox announce for immediate publication a new edition of Castellani and Chalmers's "Tropical Medicine." The new edition has been revised up to March, 1913. Some 250 new illustrations have been introduced, and the text has been increased by the addition of about 500 pages. The price, however, remains the same.

A CASE OF ANKYLOSTOMIASIS IN BIRMINGHAM.

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A MINE foreman, aged 42, was sent to me by Sir Havelock Charles on Dec. 12th, 1912, complaining of attacks of fulness with splitting or boring pain in the head which had been troubling him for the last eight months. He had fallen down in these attacks and lost consciousness. For nine years he had been a foreman in a coal-mine in Assam, but returned home in September on this account. On the whole he had enjoyed very good health, with the exception of occasional bouts of malarial fever of the ordinary ague type, but he had had none of these since the hot weather of 1911. Eighteen years ago he was in a mine accident as the result of a fall of coal, but he recovered completely and had had no recent injury. He is married and steady in his habits, taking very little alcohol; he denies syphilis. A year ago he was treated for "hookworm disease."

On examination he was a well-developed, well-nourished man; complexion dark and pale, but he said he was always pale; his mucous membranes were a good colour; weight, 13 st. (he was 11 st. 6 lb. before leaving India); pulse 72; blood pressure 124; knee-jerks lively; physical signs normal; tongue clean; teeth mostly artificial, no stumps; hæmoglobin 80 per cent.; urine acid, no albumin, no sugar. The ophthalmoscopic appearances were negative, and there was no history of epilepsy. On being further questioned he said the attacks came on generally when he rose suddenly to his feet, but might do so when he was sitting quietly in his chair. As nothing else could be found to account for his symptoms it was suspected that ankylostomiasis might still be present.

On Dec 11th he was given thymol, 60 gr., divided in two doses, and on examination of the stool passed subsequently a male and a female ankylostomum (Ankylostoma duodenale Dubini) were found together with numerous ova. There were traces of blood in the stool. The treatment was repeated on the 27th, when the small smear of fæces sent to me afterwards contained numerous ova but no worms. The thymol was repeated again on Jan. 10th and 24th. As ova were still numerous he was admitted into a bed at the Bi[illegible] General Hospital, placed at my [illegible] The blood, examined by Dr. O. [illegible] officer, showed: Red cells, 4,400,000; leucocytes, 7560; hæmoglobin, 80 per cent.; colour index, 88. Differential count of leucocytes: polymorphonuclears, 72; eosinophiles, 6; lymphocytes, 20; and large mononuclears, 1.

The patient said that his head attacks had been less frequent, but as the ova were still abundant the thymol treatment was repeated on Feb. 7th. On the following day one worm was found in the stool, which also contained a little blood. Mr. James F. Brailsford, of the Public Health Laboratory, University of Birmingham, who undertook to examine the stools, subsequently found two more worms, as well as numerous ova of ankylostomum and of trichocephalus. The patient complained that the thymol treatment caused a good deal of burning pain with subsequent depression; his urine was darkened with it. The dose of thymol on the last three occasions had been increased to 90 gr. On account of these disagreeable results it was decided to try oil of chenopodium, recommended by Schueffner as having proved satisfactory in the treatment of this disease in the Dutch East Indies. The dose given was 20 m in 5 m. capsules—three capsules at 8 A.M. and three more at 10 A.M., preceded and followed by purges as with thymol. It was tried on Feb. 19th and 21st, but no adult worms were found, although numerous embryos and ova were seen. He was allowed to go home after the second dose.

The thymol treament (90 gr.) was continued at home. On March 1st the patient reported that he had had another slight giddy attack. On the 11th he took 120 gr. of thymol; ova and embryos were still present. On the 25th the above treatment was repeated, but the stools on the 27th still con- [illegible] 1st he was given eucalyptus [illegible] by Dr. C. W. Daniels—

eucalyptol 30 m., chloroform 45 m., castor oil 10 drachms, divided into two doses taken at an interval of one hour, and preceded and followed by sodium sulphate as before. He complained of the mixture as very nauseous, and had vomited slightly after the second dose. Three days later he suffered from palpitation, which lasted four days, and when seen by me on April 10th his pulse was 60, but intermitting every fifth or sixth beat. Ova and embryos were still present in the fæces. Whether the cardiac disturbance was the direct effect of the eucalyptus oil or the indirect result of the gastritis set up by the mixture I cannot tell, but in either case I did not think it advisable to repeat it, and have returned to the use of thymol.

Five years ago Professor Ralph Stockman, of Glasgow, published a case of ankylostomiasis in a miner living in the west of Scotland who had been a soldier in India and apparently had been infected in that country. He showed the signs of marked anæmia, his hæmoglobin being only 28 per cent. After three doses of 20 gr. of thymol and a course of Blaud's pills his blood became normal and ova disappeared from the fæces, or their presence was no longer looked for.

The method of administering thymol which has been followed is that recommended by Dock and Bass, the drug being finely powdered with an equal quantity of sugar of milk and given in cachets or capsules; 1 oz. of sodium sulphate is given the previous night, and the same amount two hours after the last dose of thymol. The dose of thymol has varied from 60 to 120 gr. Fasting has also been insisted upon during the day preceding treatment, although the patient has been allowed to drink hot or cold water, soda water, milk and water, bouillon or bovril; and on the second day no food was allowed until after the final dose of sodium sulphate had been taken. The patient was kept in bed until after the bowels had acted in the afternoon of the second day, but he was advised, although not compelled, to stay in bed the whole of that day. I found the patient was generally more or less upset by the thymol; he felt ill, often complained of burning pain behind the sternum, and his urine was dark, so that he was usually content to stay in bed.

Ankylostomiasis is common in Assam, where its prevalence among the coolies on the tea-gardens has made it of considerable economical importance, owing to the reduction of efficiency in the working capacity of affected persons as well as to its by no means inconsiderable mortality. A warm, damp climate like that of Assam is especially favourable to the worms, as the ova require heat and moisture for their development after their escape from the bowel. They hatch and the embryos grow rapidly in warm mud, whence they are readily transferred to the naked feet and legs of Indian coolies. It is now believed that the larvæ gain access to the body by penetrating the skin, and that this is the most usual mode of infection. Penetration of the skin is an affair of minutes only—four minutes according to one estimate (Bass). Looss accidentally infected himself by allowing a drop of a culture of the larvæ to fall on his hand; a few minutes later he felt a lively itching and scraped the surface of the skin, which under the microscope showed a number of empty moults or discarded outer coverings of the embryos; three months later ova were found in his stools.

In answer to my questions the patient assured me that he had never gone about with bare feet or with any part of his body unclothed except his face and hands, but as portions of the mine under his supervision were some miles from his bungalow he was in the habit of taking food in his pocket to eat for lunch, so that it is probable that infection in his case has been by the mouth. It is possible that the skin of his hands might have been infected, but as infection of the skin is signalised by a rash (ground itch, Bentley), which he denies having had, infection by the mouth is more probable.

The symptoms shown by this patient are unusual. Vertigo, noises in the ears, mental depression, and apathy have been commonly observed and attributed to anæmia, but the report on the blood and the state of the mucous membranes are inconsistent with this explanation of the attacks. If the symptoms depend upon the presence of the parasite, as I believe, it is more likely that they are the effect of a poison secreted by the worms comparable with that which is formed by bothriocephalus. "Giddiness, epileptiform seizures, chorea, hallucinations and other neuroses" have been attributed, apparently with justice, to the presence of tapeworms; hysteria, convulsions, and chorea to threadworms; vertigo, hysteria, convulsive seizures, and mental disturbance to round worms; but in the accounts of ankylostomiasis the references to nervous disorders are scanty. Brumpt mentions vertigo, noises in the ears, impaired vision, mental depression, and apathy; Manson, tinnitus, vertigo, dimness of sight, mental apathy, and depression; Dock and Bass, headache, dizziness, mental dulness, insomnia, loss of knee-jerks, impotence, diplopia, nystagmus, and melancholy; Austregesilo and Gotuzzo have reported a case of delusional insanity cured by expulsion of the worms; and Macdonald has met with "moral perversity." But all these symptoms are such as might be caused by anæmia or by greatly impaired general health, which is often profoundly affected, but my patient's aspect is healthy; he has gained nearly 2 st. in weight since leaving India, and his organs of digestion and assimilation appear to be performing their work perfectly.

The presence of traces of blood in the stool is in accordance with the usual experience. The evidence in my case was a positive reaction with Boas's benzidine and peroxide of hydrogen test, but the amount was small. The worms undoubtedly suck blood and their alimentary canals are often full of blood when they are expelled, but the quantity lost by the host in this way is not estimated to be serious. It is supposed that the worms shift their position, frequently leaving wounds which bleed; some suppose that a more important cause of anæmia is the presence of a hæmolytic toxin demonstrated by Whipple, and the toxic effect is greater than the loss of blood. Looss believes that the worms not only suck blood but feed on the mucosa, but Dock and Bass express some doubt of the frequency of this occurrence.

The amount of eosinophilia present in this case was slight; it is now recognised that this blood change is most significant of parasitism, but it is not constant and may be absent in quite severe cases (Dock and Bass). In Stockman's case the eosinophilia varied from 12 to 43 per cent. of the total leucocytes. Boycott and Haldane in their report on the outbreak of the disease in Cornwall do not refer to this point. According to Dock and Bass the presence of eosinophilia shows that things are not so bad as they might be, and, in fact, they regard a rise of the eosinophilia as of good prognosis, while a fall is bad.

There was in this case no epigastric pain. This is a gnawing discomfort which patients seek to relieve by eating earth or coffee grounds or by chewing tobacco or gum (resin); indeed, in the Southern States of America doctors are said (Dock and Bass) to recommend tobacco chewing as a remedy.

The case illustrates the difficulty of successful treatment, for although the patient has taken remedies at intervals on an average of 14 days during the last five months ova are still discharged in the fæces, and therefore living females must be present in the bowel. As the worms do not develop in the intestine, the eggs undergoing no change until they reach the external air, and as my patient knows how to take proper precautions to prevent reinfection, I hope that a cure is being slowly reached; his head attacks have ceased entirely, and he maintains the same weight (April 29th, 1913). He is not at work, and has not been since his return to England. I have been disappointed at the small number of worms seen in the stools after each treatment; at no time have I found more than three worms in a single stool.

Owing to the need of a high temperature for the incubation of the eggs there is little fear of their developing in our northern climate except in mines, where the temperature is, of course, higher than on the surface of the land. Happily, so far it is only the Cornish miners that have become infected, and as they keep to their tin mines, and do not migrate to work in coal mines, the disease has not spread beyond Cornwall. If it did, there is no reason for supposing that it would not permanently infect the mining population in England as it has done in Belgium and Germany, and once the disease has become established it is extremely difficult to eradicate. As many of the harbourers of these worms present no symptoms yet are a source of danger by spreading the disease, it would be necessary to examine every individual in a mining population and to put all the infected persons under treatment, isolating them until it was proved that their fæces contained no ova. It is doubtful whether such a radical method of treatment would be practicable; it would certainly be very expensive.

Owing to the grave danger of allowing a carrier of this infection to return to work, the treatment will be continued until the ova disappear from the fæces.

[illegible] p. 189.

Birmingham.

RADIUM EMANATION THERAPY.[1]

BY DR. W. ENGELMANN.

IN speaking of radium therapy it is best to distinguish between radium therapy in the narrower sense and radium emanation therapy. It is well known that in the former, which may be assumed to be most in vogue in surgery and dermatology, very strong radium preparations are used; the effect is produced by the rays emanating from the radium, the α, β, and γ rays. The effects in question are, therefore, very strong; they resemble those of the X rays of the Roentgen therapy. As examples I may mention the radiating of skin diseases of the most malignant and obstinate type, including even lupus and cancer—in which this treatment is often startlingly successful, and also injections in the case of malignant tumours, and recently in diseases of the hematopoietic system. In these two examples we have at the same time paradigms for the biological effect of the radium salt on the living tissue, which effect is twofold, namely, irritant—i.e., inflammatory and producing hyperæmia—and, secondly, destructive. In the application of radium emanation, the second kind of radium therapy, [illegible] ve a weakened effect. [illegible] o have to deal with [illegible] I wish to speak in this article.

At Kreuznach, formerly known only for its brine mother-lye baths. a certain amount of experience as to the nature of the radium emanation and the manner in which it acts has been acquired during the five years that have elapsed since the systematic practice of radium emanation therapy began; and during these five years the Kreuznach physicians have endeavoured to give themselves and others some [illegible] essays, [illegible] ological [illegible] possess highly radio-active springs, it is also able to prepare very valuable radium solutions out of the residue obtained in the production of mother-lye; it possesses the only radium factory in Germany.

A number of investigations as to the biological effect of the radium emanation have been made and reported, which do not, indeed, yet give any unobjectionable explanation of the clinical results of the radium emanation therapy, but do justify the hope that such an explanation will one day be found. The nearest approach to a solution of the problem seemed to be made during the investigation of the effects of radium emanation on certain body ferments or on processes in the human or animal organism in which, according to the present teaching of science, enzymotic forces must be supposed to play a part. The actuating influence of radium emanation on the pancreatin, the peptic ferment, and the autolytic ferment is known. The explanation of Van der Velden's observation that radium emanation strikingly increases the coagulability of blood may also be that emanation exercises an actuating influence on certain ferments operative in coagulation.

We may assume a similar influence when we hear that Richet was able to promote the fermentation of lactic acid by a slight dose of emanation and to retard it by a stronger one. The same may be said of the fermentation of yeast, in which an exactly similar, partly retarding, partly promoting effect under the influence of different doses of emanation has been observed.

Von Noorden and Falta believed a connexion to exist between these fermentative processes and what they observed of the behaviour of the white blood corpuscles under the influence of radium emanation. In the human subject they found after emanation treatment a rise in the number of the white blood corpuscles and then an increased decay. They concluded that, as the white blood corpuscles were supposed to be the seat of the ferments, such a connexion was possible if the actuation of the ferments was really to be regarded as an essential effect of the radium emanation.

These biological influences at any rate show that the relation of radium emanation to the radium preparation as such somewhat resembles that of a concentrated medicament of very violent physiological effect to a diluted one; in the former very strong, violent biological effects, demanding the utmost caution in determining the dose and in the manner of application; in the latter a weakened effect, allowing us to apply the remedy more fearlessly. In certain circumstances the radium rays destroy the tissue, whereas the radium emanation actuates and promotes the processes in the body. In the same sense the increase of the phagocytosis, recently ascertained by Laqueur, is to be valued. Here, too, the question was of therapeutically applied doses. The fact that radium emanation has a retarding effect on the growth of several kinds of bacteria, including pathogenic ones, or even kills them, has been harmoniously ascertained in several different quarters. It cannot be turned to therapeutic account without more ado, because in the test-tube experiment comparatively high doses were given; but it is biologically interesting. Contrariwise Falta and Schwarz have ascertained by experiments in the field of vegetable physiology that even large doses of emanation may have a furthering effect on a physiological process. Emanation has an intensely furthering influence on the growth of oat germs.

It has also been ascertained by Plesch that the maximum pressure of the blood sinks under the influence of radium emanation, and that in some of the cases examined the medium pressure decreased, so that a diminution of the work done by the heart must be assumed. In many persons emanation increases the gaseous interchange, frequently also the elaboration of albumin. Finally, Kikkoji and Bernstein say they have ascertained an increase of the combustion of sugar.

We see, then, that in many cases the effects of radium emanation in experiments and in practical application run parallel. We find that it has an intensely stimulating effect on all the factors of assimilation, that it enhances, as it were, the vital processes. In this sense also I interpreted the results of a series of experiments which I made two years ago. Originally induced by the favourable effects of radium emanation on sufferers from gout, and following von Logham's example, I produced artificial tophi in rabbits. I injected liquid preparations of uric acid into the subcutaneous connective tissue, and observed the behaviour of the deposits under the influence of emanation. Untreated control animals with the same deposits served as objects of comparison. The slow resorption of the deposits which set in in obedience to physiological laws was quite considerably accelerated under the influence of radium emanation, the effect becoming noticeable within 24 hours. At the time when the experiments were made one might have been tempted to regard this phenomenon as a specific effect on gouty deposits, for at that time Gudzent's experiments had not yet been tested. It is known that Gudzent believed himself to have demonstrated that uric acid is found in the blood as urate of mononatrium, and that in two forms—a stable and a less stable one. Under the influence of emanation he found in the test-tube a transformation of the former form into the latter, and believed that in this phenomenon he had discovered an explanation for the removal of the uric acid from the organism, which is really observed. The experiments have been tested in two quarters and not confirmed. This, as is known, was one of the things that led to the rather vehement discussions of last spring, which somewhat discredited the emanation therapy. Unfortunately, or rather, not quite justifiably, for, firstly, Gudzent's experiments were afterwards confirmed. In Madame Curie's laboratory Mesernitzky, who conducted his investigation somewhat differently, found the same results. He worked, it is true, with very high doses of emanation. The question must be declared at least undecided.

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[1] A lecture given at a clinical meeting of the Municipal Hospitals at Dortmund.

Secondly, however, the good therapeutic results could not be denied. Finally, the fact that the excretion of uric acid was influenced by emanation remained unshaken. Both Gudzent and Mesernitzky were able to ascertain an increase of the excretion of the endogenous uric acid and purin bases in healthy persons. In the case of sufferers from gout it was ascertained that exogenously introduced material containing purin was promptly excreted under emanation treatment, whereas the previous excretion had been slow. This would give us an idea of the manner in which radium emanation operates if we think of the definition of gout, which tells us that gout is the expression of a pronounced disturbance of the fermentative system of the elaboration of purin, which consists in the retardation of the formation, destruction, and secretion of uric acid, and leads to a permanent accumulation of uric acid in the blood, i.e., to uricæmia.

It is to be noted that the persons on whom Gudzent experimented had inhaled the emanation; they were in the so-called emanatories. Mesernitzky found the same results in the laboratory of the salt works belonging to the town of Kreuznach in patients who drank radium water. I must add, it is true, that these phenomena did not appear in all persons with equal intensity, as, indeed, be it said by way of anticipation, in the emanation therapy it is more than ordinarily *necessary to individualise. The influencing of the blood is* also subject to similar variation. It has been already mentioned that leucocytosis, frequently followed by leucopenia, was ascertained under emanation treatment in von Noorden's clinic. In His's clinic this effect has been ascertained even when the doses were small. My own investigations, it is true, do not confirm this, at least after drink cures. In dogs, on the other hand, when large doses were given, I found, as the Vienna investigators did, quite considerable leucocytosis, which lasted till a fortnight after the last dose. It is true that I gave them doses up to 50,000 units a day (Mache Einheiten); to human beings one gives 1000 to 3000 units (M.E.). In certain forms of diseases those high doses will be more frequently given in future than hitherto. We are reminded in this connexion of the effects of thorium, the sister element of radium, on the hematopoietic system, and of its therapeutic effects in diseases of the blood. It seems to me not impossible that high doses of radium emanation may have a similar effect, but this question has not yet been thoroughly investigated.

A word or two now about the *forms of application*. We administer emanation by means of baths, inhalation, drinking radium emanation water, rinsings out, enemas, or compresses. For a while baths did not enjoy among the radium therapeutists the reputation which they decidedly deserved. Quite unintelligibly, if one considers that at watering-places with waters rich in emanation this form of application has long been one of the most favoured. Löwenthal believed that he had ascertained that emanation, which, as is known, has all the characteristics of a gas, does not penetrate through the skin into the body, and that therefore baths are useless. Even if he had been right, his conclusion was a hasty one, for the agent in question was comparatively unknown, not yet exhaustively studied, and, above all, the possibility of the α, β, and γ rays exercising an influence in the form of induced activity, which precipitates itself on the body on all sides, was left out of account. I may remind the reader that emanation, as already said, is a gas which emanates from radium. It is, as is known, colourless, odourless, tasteless, and is best demonstrable in the air, in springs, and in fluids in general by means of the electroscopic method. Emanation electrifies the air, and thus acts, e.g., on the little plates of an electroscope. The measuring method is extremely simple and should always be applied when clinical observations are made after emanation therapeutic measures. The understanding of its behaviour in the organism is facilitated by remembering that emanation is comparatively short-lived. It disappears within about eight days, disintegrating into solid elements, radium A, B, C, D, &c., which also have a more or less long duration, and emit the biologically effective rays, while they precipitate themselves, if we will conceive it so, on the cells in the organism. Radium emanation water must therefore always be applied as fresh as possible, because otherwise its strength does not correspond to that perhaps ascribed to it.

To return to the baths, I was able three years ago to demonstrate *at Strasburger's clinic in Bonn* that the emanation does indeed penetrate through the skin during a bath, and is demonstrable in the blood. My measurements were afterwards confirmed from another quarter, and the reputation of baths was restored. According to more recent investigations the penetration of emanation into the body seems to be even more considerable than I then supposed. Thus, also, a new justification was given for the application of poultices, which Strasburger had strongly advocated from the outset. There is, it is true, no doubt that the manner of operation is not thereby exhaustively explained. It is not only the emanation that has penetrated into the body that operates, as does also the inhaled emanation; the β and γ rays that penetrate through from without operate too. Perhaps also the α rays, which are, indeed, biologically very effective but do not penetrate so deep, operate by irritating the nerve terminations or the like. To be worthy of the name, a radium bath must have a strength of at least 7000 to 10,000 units (M.E.). Baths containing less than that are *not specifically* effective. The baths given at Kreuznach contain 22,000 units. If necessary, and if patients can stand it, emanation water can be added till the bath has twice or three times that strength or more. The temperature is that of an ordinary bath, and the patient should stay in it as long as possible. Our patients are not allowed to dry themselves, but rest, wrapped in their bathing-sheets, *for 20 to 30 minutes till the emanation dries in, in order to secure the* longest possible duration of its influence.

Another method of conveying the radium emanation into the body is by drinking.

After long controversies the opponents of the drinking method now admit that it is at least not inferior in value to inhalation. It is now admitted on all hands that it was, first and foremost, the Kreuznach doctors who always kept emphasising the effectiveness of the drink cures. The opponents contended that when one drinks emanation water it gets after resorption in the intestine only into the small circulation, and that, owing to its instability, the gaseous emanation is so completely exhaled in the lungs that only infinitesimal quantities get into the great circulation. My above-mentioned experiments, in which I gave the animals 60 grammes of emanation water daily—i.e., 600 units—per os with the œsophageal probang, spoke strongly, in harmony with the numerous clinical observations that had been made not only at Kreuznach but also elsewhere, for the value of stomachic incorporation. Accurate investigations of the blood—i.e., measurements of the blood with a view to ascertaining how much emanation it contained—which had been made in the most various quarters by Strasburger, Lazarus, and others, proved unambiguously that the drinking method is a very rational one. Not less than two years ago I had ascertained in the case of a dog with an intestinal fistula that even an hour after a dose of emanation water the intestinal juice contained about 30 per cent. of the emanation-content of the dose. It follows that the passing of emanation into the blood lasted for at least that length of time. By measurements of the blood of dogs I was then able to ascertain as a fact that emanation is still demonstrable with certainty in the blood *even two hours after drinking*. If, therefore, the patient drinks small quantities of radium emanation water four to six times a day, a lasting loading of the blood with emanation can easily be brought about. And at Kreuznach the method has already stood the test of experience for a long time. In general the patients drink from 1000 to 3000 units (M.E.) a day. Of course one must begin with small doses, and increase them only if the water agrees well with the patient.

The third principal form of application is *inhalation*. The idea of incorporating emanation as gas with the organism by inhalation was obvious. So-called emanatoriums were constructed—little rooms the air of which was loaded with emanation. In these a number of patients could sit, and thus conveniently inhale emanation. Apparatus was provided for the absorption of bad air and the introduction of oxygen. It was believed that during a patient's stay in such a room the incorporated emanation could be rightly retained in the organism. It is possible that the emanatorium treatment thus came to be overrated, especially when Gudgent claimed to have ascertained that during one's stay in such an emanatorium even an enrichment of the blood with emanation took place. If this were the case, there must be an affinity between emanation and blood. There is, however, as Plesch and I were able to demonstrate by joint experiments, no such affinity. The manner in which we experimented even led us to the result that blood takes up about 10 per cent less emanation than water does The above mentioned investigations of the blood by several writers also spoke against the opinion It is, therefore, probable that an enrichment does not take place, though a plentiful loading of the blood, corresponding to the quantity of emanation used, does The stay in emanatoriums is, therefore, very well fitted to bring emanation into the body, and therefore to be therapeutically effective The constructors of emanatoriums have been blamed for bringing only the so called two unit emanatoriums into the market—i e, such as contain two units (M E) per litre of air That is not sufficient, at least for the majority of patients One must be able to demand from eight to ten units Von Noorden complains that they do not adequately meet the necessity of adapting the doses to the requirements of the individual patients He prophesies a greater future for the inhaler designed for only one person It is portable, and can be used by patients who are confined to bed, it is also cheaper, allows one to vary the dose, and does not compel patients to sit together in a little room in which the air is often bad

Along with Professor Bickel I some time ago perfected, tested, and showed to the Medical Society of Berlin such an inhaler intended for one person It is intended to serve as supplementary to any apparatus for the preparation of emanation water—Neumann s activator, for instance In my opinion one is best able to practise rational radium emanation therapy if one uses two such apparatuses, no matter of what system One has the option of giving radium baths, poultices with radium water, rinsings out, enemas, nutrient enemas emanation water to be drunk, and, lastly, emanation to be inhaled with the help of an inhaler intended for the use of one person

We come now to the groups of diseases for which radium emanation therapy is suited, and here the first disease to be named is gout genuine gout, arthritis urica, for which radium emanation seems in many cases to be almost a *specific remedy*

I remind the reader of the above remarks on the influencing of the assimilation of purin The best treatment is that in which all the above mentioned forms of application—drinking, inhalation, baths, compresses if necessary—are cautiously combined If the organism reacts—it is a singular fact that there are not a few cases in which it does not—it frequently happens that *the feeling that it is taking effect soon sets in After from* four to six days the known reactions take place pains in the joints in the most different parts of the body, often as severe

the most part of shorter
in may be given for a
nd the effect slowly sets
in Subjective and objective improvement takes place In contradiction to von Noorden I wish to state that the tophi *do become softer Strasburger and others have also noticed* this The treatment—in cases of necessity a drink cure alone suffices—should last six weeks, and it seems advisable to repeat a drink or inhalation cure once or twice a year, the choice being determined by the remedial resources of the patient's place of residence

Another large field for the advantageous practice of emanation therapy is articular rheumatism in its most various forms, above all the primarily chronic polyarthritis exsudativa and the primarily chronic arthritis sicca, which occurs, I presume, mostly at an advanced age The treatment is the same as that sketched above, but here the use of baths and poultices is very decidedly to be recommended Under certain circumstances the advisability of injecting radium solutions is also to be considered Here, too, there may be slight reactions—pains and sometimes a slight increase of temperature Sciatica, too is a malady in which the treatment is likely to be rewarded by success but owing to the multiformity of its etiology there are of course, unsuitable cases When all other therapeutic measures fail a trial is much to be recommended I have seen cures and many partial cures myself In general the effects on many other disorders of the nervous system are notable This fact is probably connected, as Strasburger points our, with the antiphlogistic and resorption furthering qualities of emanation Moreover von Knaffel Lenz, of Vienna professes to have ascertained by experiment that the healthy nerve tissue is influenced by emanation All kinds of neuritis and neuralgia are suitable objects of treatment Here, too, besides drink and inhalation cures baths and compresses play a great part The effect of the latter, e g, is often subjectively ascertainable immediately after application, often diagreeably at first I have seen two extremely obstinate cases of herpes zoster in persons fairly advanced in years which had defied every kind of treatment, quite surprisingly bettered These are only instances among many The lancinating pains of sufferers from tabes dorsalis are relieved Then there is the myalgia group Besides all these, I mention also bronchial asthma, presclerosis, arterio sclerosis, and diseases of the genitals of women, especially in cases in which it is important to assist the resorption of chronic exudates, swellings of tissue, and the like And, in general, adhesions, tissue thickenings of every kind formation of callus, formations of scars cannot be otherwise than favourably influenced by a combined local and general emanation treatment Advantageous results after radiation with radium preparations in cases of myoma and disturbance in menstruation have quite recently been reported from the Freiburg clinic for women In these cases the radiation with radium rays took the place of radiation with Roentgen rays It seems to me not impossible that the somewhat milder application of these rays practised in radium emanation therapy will in future play a more important part in the treatment of women The experience gained at Kreuznach, where female patients are very numerous, speaks strongly for this opinion. But the decisive, quite objective observations cannot be made at a watering place At any rate, a histologically demonstrable influencing of the ovaries and also the occurrence of miscarriage after mere drinking of emanation water have already been experimentally ascertained By means of poultices, rinsings out, and, above all, nutrient enemas, the use of which is already very frequent at Kreuznach, it will also be possible to render the general radium treatment of the diseases of women very powerful local support

The skin diseases belong in general to the province of radium therapy in the narrower sense—i e, they must be treated by radiation with radium preparations In many obstinate cases, however radium emanation also may well deserve to be recommended I will not enumerate all the maladies for which the emanation treatment is suitable, but only mention some cases of cured or very considerably bettered scleroderma reported in the literature of the subject One such case I saw myself So far as I am aware such cases defy every other treatment

I do not mean to say that the treatment in question is, as a matter of course, the only right treatment for all the phenomena of disease which I have somewhat copiously enumerated, but only that in suitable cases it is reasonable and worth while to try it After all, this therapy is still young, and it is possible that our views as to the question what diseases it is suitable for may undergo considerable modification Von Noorden thinks it is applicable to still more diseases than I have mentioned He believes, for example, that attempts to cure corpulence on the lines of
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stomach he thinks the same, he has seen good results in cases of nervous gastritis A fellow doctor drew my attention to the fact that his achylia gastrica, which had greatly impaired his health and defied all treatment had so considerably improved after a drink cure that he now, months afterwards, felt better than ever I believe that strictly clinically conducted experiments in this direction will not fail to be rewarded

Finally, I mention the effect of emanation on the power of generation The observations come from the most various quarters, above all from von Noorden and from doctors at Joachimsthal and Kreuznach The phenomenon would harmonise very well with the results of O Hertwig s investigations, who ascertained a quite specific effect of the radium rays on the nuclear substances of the two sexual cells, and with the observations of Halben, who succeeded in enhancing the secondary symptoms of sexual passion in water newts by radium emanation Affection of the kidneys tendency to bleeding, and tendency to miscarriage
contra indications
enumerations which, owing
at my disposal, cannot be

complete, and which aim only at giving a general idea of the nature of radium emanation therapy. I believe one need not be too much of an optimist to be able to endorse von Noorden's declaration that radium emanation therapy may now be justly regarded as belonging to the solid stock of medical therapeutic measures.

Bad Kreuznach.

THE USE OF TUBERCULIN IN DIAGNOSIS AND TREATMENT.[1]

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Tuberculin in diagnosis. The specific tuberculin tests are four in number: (1) the ocular reaction of Wolff-Eisner and Calmette; (2) the cutaneous reaction of von Pirquet; (3) the percutaneous reaction of Moro; and (4) the subcutaneous reaction of Koch. All the above tests have their appropriate individual uses. They depend on the existence of that "paradox reaction" termed anaphylaxis.

1. Calmette's ocular reaction, described in 1907, has since then attracted considerable attention. Many precautions are necessary in its application, and, even so, the test is not without a certain measure of risk to the eye, so that both for this reason and because, moreover, it is not as sensitive as the other three tests I have mentioned, it has now largely fallen into disuse in general medicine.

2. Von Pirquet's cutaneous reaction. The chief value of this reaction appears to be in the case of children under 5 years of age, where a positive reaction may be taken to indicate the presence of definite tuberculosis. In adolescents and adults a positive result must be reviewed in conjunction with all other available data before an opinion be given.

3. Moro's percutaneous reaction is a modified von Pirquet's reaction, and is readily performed by rubbing into a small portion of the skin an ointment of equal parts of old tuberculin and anhydrous lanolin. Occurrence of a localised dermatitis denotes a positive reaction. The ease and safety of this test are its chief advantages.

4. Koch's subcutaneous test is necessarily preceded by the patient's temperature being recorded three-hourly for at least three days before the injection, since this test should only be applied if the temperature is below 99° F. For adults the first test dose consists of 0·001 c.c. old tuberculin (O.T.). If no reaction ensues 0·005 c.c. O.T. is given in three days, and if still negative 0·01 c.c. O.T. at a like interval of time. In the continued absence of reactions one may say that no tuberculosis is present. For children over about 10 years of age the diagnostic dose may often be equivalent to that for adults, but for a child of 5 years of age the initial dose should not exceed 0·0005 c.c. O.T. and the next subsequent dose 0·0025 c.c. O.T.

The complete and typical reaction which may be expected, if tuberculosis is present, is in nature tripartite—viz., focal, local, and general, these manifestations being given in the order of importance. The focal reaction is essentially specific and produces hyperaemia and inflammatory swelling around the tuberculous focus, this in the lung being evidenced by the presence of new or increased moist crepitations in the affected patch, and appearance or increase of tubercle bacilli and elastic fibres in the sputum, which may be, and often is, itself increased in quantity. I regard the focal reaction as by far the most definite and conclusive of the three. Next comes the local reaction at the point of injection, which gives similar clinical appearances (apart from the papule) to the von Pirquet reaction. The general reaction is shown by fever and consequent malaise, &c. A rise of 1° F. or more may be regarded as positive, and this comes on about 8 to 12 hours after the injection, appearing usually on the temperature chart as a peak with sharp elevation and decline, the downward slope at times being interrupted by a second rise usually of lower, but occasionally of higher, level than the first.

Of all the diagnostic tests the subcutaneous one is, in my experience, the most reliable. If no tuberculosis is present tuberculin has no ill-effects. This fact alone encourages one to use tuberculin at the earliest moment to pick out cases suitable for sanatorium and tuberculin treatment from those for which these remedial methods are either inadvisable or unnecessary.

Tuberculin in treatment. In the brief space at my disposal I cannot hope to do more than touch upon a few salient points based upon clinical observation in my tuberculosis department. The preparations of tuberculin are many and various. I find that some patients are more sensitive to one form of tuberculin and less sensitive to another, so that if intolerance of one kind of tuberculin is manifested it is wise to make a change. The main point to remember is that, no matter what preparation is used, sufficient time must be allowed for proper spacing of doses, and that it is never good policy to attempt to proceed too rapidly. If the remedy is to be beneficial, I believe that throughout one should try to avoid all but slight reactions, the only exception being in early stages of the weak preparations, where hypersensitiveness can be overcome by cautious increase of dosage at comparatively short intervals. This has the effect of inducing tolerance to the successive stronger doses, whereas repetition of the same or smaller doses at longer intervals appears to produce, and, if present, to intensify, that very condition of extreme sensitiveness which one is so anxious to avoid. Hence under such conditions one's motto must be, "Vestigia nulla retrorsum." Should, however, such procedure fail, the only course is to suspend the treatment for some weeks.

As to the *scale of dosage* which should be adopted there is no hard-and-fast rule. It is impossible briefly to give a set scale to which one should work, for not only has one to deal with each individual patient as a separate problem, but also to be guided by the ever-varying factors of the patient's sensitiveness in particular and of his state in general. In my own practice I have abandoned other methods for the intensive system of dosage. In the treatment of pulmonary tuberculosis I begin with small doses of a weak bovine preparation e.g., 1/10000 c.c. or less of P.T.O., and working through increasing doses of this to bovine old tuberculin (P.T.). I complete the treatment in all cases wh [illegible] course of human tuberculin, usually O.T. [illegible] tuberculin (T.A.F.), finishing with doses of 1 c.c. or even more at longer intervals. In the earlier stages of treatment my custom is to inject every three or four days, and when larger doses of the strong preparations are reached, once a week.

Since the administrator cannot, with any accuracy, check the number of milligrammes of solid active substance contained in the particular preparation used, I invariably record dosage in terms of cubic centimetres, for one can always measure exactly the amount of fluid that one injects. Tuberculin, when diluted, soon becomes inert, so that fresh dilutions should be made at least once a week. I nearly always make the dilution with freshly prepared saline solution containing 0·5 per cent. phenol at the time of administration. This procedure takes a little longer, but one thus avoids severe reactions consequent upon a potent dose following one which has been inactive.

On these lines immunisation can usually be attained within from 4 to 12 months, and various statistics show that such immunisation is capable of persisting over a period of several years.

In cases which are doing well the dosage can be increased more rapidly, so that the total time of immunisation is thus shortened. In advanced cases tuberculin does good at times in checking the rapid onward march of the disease, and the temperature may be brought to normal with apparent amelioration of physical signs to percussion and auscultation. Other cases, again, do badly. X ray examination in both these classes not infrequently reveals increase in shadow in the lungs, but in a case doing well in other respects it would be hard to say that such increased opacity represents extension of disease, since augmentation of visible shadow may quite well be due to attempt at repair by fibrosis. Should the disease progress notwithstanding cautious injections, tuberculin should be discontinued.

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[1] Abstract of a paper read at a meeting of the Chelsea Clinical Society on April 15th, 1913.

THE TREATMENT OF CONFIRMED CASES OF HIGH BLOOD PRESSURE

THE UNDESIRABILITY OF ACTIVELY APPLYING THERAPEUTIC MEANS TO REDUCE IT[1]

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THE instrumental estimation of blood pressure is comparatively new in the investigation of disease, and without doubt it has been very helpful in the treatment of certain cases But whilst the sphygmomanometer gives us a reading which forms a good working basis in treatment, readings must not always be considered as representing the exact measurement of blood pressure for in certain circumstances particularly when the subject is emotional or unduly anxious, the readings may be higher than they should be, and this we should allow for to some extent It is rather more than a year ago—when I opened a discussion at the Leeds Medico Chirurgical Society on some aspects of high blood pressure requiring special consideration in treatment—that I particularly pointed out that in some cases increased pressure remained high whatever measures were taken to lower it, and that it was wrong treatment to press vasodilator remedies in such circumstances

It has been one of the unfortunate by products of our recently acquired ability to determine a patient's blood pressure in millimetres of mercury that the sight of the column near the top of the tube has so often led to immediate endeavours to reduce the pressure at any cost (Janeway) This point is not sufficiently recognised by some practitioners who make use of the instrument, and I get cases of high blood pressure sent to me at Harrogate for special treatment to reduce it, in which nitrites, large doses of iodide of potassium, and other depressing remedies have been used, with the story that the pressure will only partially yield to treatment The fact is that owing to the gradual increase of blood pressure each individual readjusts his cardiovascular physiology to compensate this, and the physiological limit is now not 140 or 150 mm Hg, but may be 220 or 250, and to reduce the pressure below this new physiological limit is not only not indicated, but is bad therapy "The fact should be emphasised that supernormal arterial pressure is not itself a primary condition to be attacked or controlled as such It is invariably a result of some pathological cause or causes, and it is moreover, often a necessary evil the result of conditions we cannot remove, and then it must be looked upon as a compensatory effort, as one of the natural defences of the body" (Oliver)

A patient, aged 65 was referred to me two years ago as having had a high blood pressure for some years, and he had had considerable therapeutic attention paid to it He had been a great athlete and rowed in his University boat three years When I saw him the pressure showed a reading of 180 mm Hg, and he was dyspnœic on exertion His heart was enlarged, the apex beat 1' inches outside the nipple line with very irregular action There was no albuminuria and the vessels were not palpably thickened It was clear that the compensatory hypertrophy which had helped him so long was failing I gave him no lowering treatment, but that which was directed to the raising of his pressure, and advised moderate exercise with plenty of rest between I gave him strophanthus and nux vomica to raise his pressure, and he had Nauheim baths and Schott exercises to open out his peripheral circulation, which was contracted After three weeks' treatment his blood pressure was 15 mm higher and the heart more regular, and he returned home much better He made another visit last year, having taken strophanthus as required under the directions of his medical man in the interim, and his blood pressure was in a still more satisfactory condition, for it was steady at 200 mm Hg, and he was able to do his ordinary amount of walking exercise quite comfortably This was plainly a case where it was wrong to deprive the patient of a [illegible]

220 mm Hg, and with the exception of occasional slight giddy attacks after prolonged exertion he suffered no serious symptoms The heart's apex was very little out of its normal position and his kidneys apparently were good He had had constipation for years and the sphincter ani had been stretched to relieve it I therefore gave him a little intestinal lavation, but it was not found necessary to do so after a few douches His pressure was down to 200 mm after this treatment and some massage douche baths, but I heard from his medical man that it was soon back again to 220 mm He had been given 20 gr doses of iodide of potassium to reduce the pressure for a considerable time, but with no marked result except to mentally depress him My advice to him has been to live a healthy life, avoiding alcohol red meat and salt, to take aperients for the constipation, and exercise, and leave the iodide and other depressants alone I have recently heard from him that he is keeping well, and is continuing his *régime*

The following case is an extreme example of a class not uncommonly met with high blood pressure, with some cardiac hypertrophy, and symptoms for years referable to a certain amount of disturbance of the liver and bowels in the middle aged, who show no signs of arteriosclerosis in the systemic periphery, and no clinical evidence of nephritis after examination for albumin and casts Sir Clifford Allbutt has called attention to these cases, and he names them hyperpiesis It is a curable condition if caught early, but if not it frequently ends in a permanently high pressure, and possibly in apoplexy, or cardiac defeat in trying to overcome the supernormal pressure

A medical man, aged 58, was sent three years ago for Harrogate treatment He had been seen by two physicians in a northern city who thought the symptoms I am about to describe due to the development of some cerebral disease The patient had taken a fair amount of alcohol, but none for the five years previous to his illness, but he had been a big eater of red meat He worked hard in a country practice and was subject to bad headaches, for which he frequently took calomel and antipyrin He had, however, what he called a seizure, which he described as being constituted by great pain and throbbing in the head and marked giddiness in the erect posture I was asked to see him in consultation with Dr Gordon Black some weeks after this attack He was very emotional, and was rather like a candidate for cerebral softening He complained of throbbing in the head, and was more or less giddy in the erect posture On examination the pulse was one of very high pressure to the touch, and the sphygmomanometer showed a systolic pressure of 220 mm Hg As is my custom, I looked for corroboration of this in the position of the heart's apex, which was a full inch outside the nipple line There was no albumin, and the urine was of good specific gravity We came to the conclusion that the symptoms were due to the high blood pressure, and that the only possible chance for the patient was to give him perfect rest with a very strict diet All meat was forbidden as well as salt He continued to have nothing but milk and fish for the three or four months whilst under our care He was well purged and the skin was kept active, but he was much too ill to have any balneological treatment The blood pressure gradually came down and the apex beat came in, and after four months' rest he was able to walk fairly comfortably without much throbbing or pulsation The patient eventually got back to his work, and continues well He lives practically on the same lines of diet, taking no red meat or alcohol, and is now able to do as hard a day's work as he ever did, and when visiting Harrogate last year we found his pressure 140 to 145 mm Hg only

This is an instance of what can be done for some cases of high blood pressure in the way of treatment when seen early This patient had no nitrites after the first week's treatment, for they had no effect in reducing the pressure, neither did he have iodides, and we may attribute his recovery to rest, alteration in diet, and more or less free purgation with calomel and salines

A natural question to ask is, How are we to determine the true position of a case of supernormal pressure? These cases always give us anxiety, and rightly so, for we are confronted with two dangers and with one eye we see visions of a possible catastrophe through the rupture of a weak vessel by doing too little and with the other the danger of doing too much in lowering the pressure and weakening the cardiac force My reply to this is take a careful history of the case and observe the condition of the cardiovascular, the renal and alimentary systems and try find out the cause of the high pressure, such as errors in diet, alcohol, syphilis, lead, and excessive worry, remembering that supernormal pressure is not a disease *per se*, but a symptom only. If the left ventricle is hypertrophied it suggests the pressure has been persistently high for some months or years. Experience teaches us that with a restriction of red meats and alcoholic drinks from the dietary of those who take them freely the pressure, if not a permanently high one, usually diminishes, and this argues that purin bodies and alcohol probably act as vasoconstrictors. Waste is constantly going on in the body, and it is important to get rid of the products of waste whatever they may be The proof of the splanchnic vessels being some of the earliest to become affected in arteriosclerosis points to our relieving congestion of the visceral vessels, which can be done by judicious purgation, and 1 gr. doses of calomel and saline purgatives are most useful two or three times a week. One of the greatest outlets for waste products is the skin, and when inactive a free action of this organ must be encouraged by artificial means, such as by massage-douche and Nauheim baths, when these can be obtained, and intestinal lavation is also very desirable in cases with constipation. It is a common observation that with a dilated periphery causing an active skin we have a lower range of blood pressure, which leads us to suggest to those who can afford it to follow the sun. The cardinal principles of treatment, then, resolve themselves into a strict regulation of the intake and an active outlet for the waste products, and moderate exercise followed by rest is very desirable to give a better distribution of the blood. In all cases observations must be made with the sphygmomanometer from time to time as a guidance in treatment.

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[1] A paper read before the Balneological Section of the Royal Society of Medicine on April 14th 1913.

If in spite of our *régime* and treatment the pressure continues high after having watched the case carefully for some months, we conclude that this is a case in which the pressure is permanently supernormal. In any case, we recommend the general *régime* to be continued, and so long as no urgent symptoms arise the patient may do his work in life if he avoids excitement and sudden strain. Lastly, we must not use any *active* means to reduce the pressure, remembering that it is probably an advantage and necessary that the pressure should be high for the maintenance of an adequate supply of blood to vital organs. As for drugs of the vasodilator type, I mean the nitrite group, I use them very little except in emergencies, for I believe it is sounder treatment to get rid of the bodies in the system which contract the periphery by the means I have mentioned, rather than by dilating up the blood-vessels with the offending poisons still intact. I give iodides very carefully, if at all, but if there is any syphilitic history they may be pushed. As for gypsin, this I have given a trial in some cases, but with no marked results.

Harrogate.

PROTOZOAL-LIKE STRUCTURES IN THE BLOOD IN A CASE OF BLACKWATER FEVER.

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THE cause of blackwater fever still remains one of the most important problems unsolved in tropical pathology. A friend of mine, aged 28 years, who had never had an attack of blackwater fever, arrived in England on Dec. 23rd, 1911. He had resided in Rhodesia for four years and had enjoyed comparatively good health. On Dec. 27th, after a dance, he passed blood-stained urine, and shortly afterwards had rigors, bilious vomiting, and a temperature of 104·2° F. He passed through an acute attack of blackwater fever. The urine on the fifth day became quite normal, but he collapsed, sank into a comatose condition, and died on the sixth day. Throughout my attendance upon him I took numerous blood films and fresh cover-glass preparations. The films were stained with Leishman's stain, or with Leishman's first and then with Giemsa, or fixed in absolute alcohol and stained in the usual way with Giemsa's stain. The fresh preparations were examined very shortly after they were made by ordinary and by dark-ground illumination.

Examination of the Blood.

No enumeration of the cellular elements was made during this short illness, and the hæmoglobin was only estimated once, on the last day, when it proved to be 14 per cent. The following tabulated statement shows the percentage of the leucocytes during the illness :—

—	Dec. 27th, 1911. 12 noon.	28th, 12 noon.	28th, 6 P.M.	29th, 12 noon.	30th, 12 noon.	31st, 12 noon.	Jan. 2nd, 1912. 3 P.M.
	%	%	%	%	%	%	%
Polymorphonuclear ...	74	68	65	63	61	64	47
Lymphocytes...	12	19	21	10	15	14	20
Large lymphocytes ...	12	12	13·5	27	23	20	28
Eosinophiles	2	1	0·5	0	0	0 5	1
Myelocytes	0	0	0	0	1	1·5	4

The leucocytes were apparently about normal in number during the first three days. Thereafter they increased, and on the last day on which films were taken there was a very pronounced leucocytosis. Some few of the leucocytes contained small vacuoles in their protoplasm on the first day of the fever, a condition not uncommonly met with in several pathological states of the blood. In addition to these, one or more large vacuoles, as large in some cases as a red blood corpuscle, were not infrequently seen, especially in the last stage of the disease, and two or three most perfect examples of leucocytes containing a red corpuscle in their interior were found. One of these erythrophagocytic leucocytes was a polynuclear, the other a transitional form of white cell. The red blood corpuscles were in the first stages of the fever fairly normal in size, shape, and staining reaction, and remained more or less so till about the fourth day of fever, when moderate signs of anæmia became evident and a few nucleated red corpuscles were found. Basophilic and polychromatophilic [illegible] corpuscles, although occasionally seen, [illegible] this stage. On the last day (Jan. 2nd), however, when the hæmoglobin had fallen as low as 14 per cent., all signs of degeneration alterations in red corpuscles were abundantly evident, and the blood picture was not at all unlike that seen in advanced pernicious anæmia, with the exception of the marked leucocytosis. A very conspicuous feature now was the large number of nucleated red blood corpuscles of all sizes, many showing signs of mitotic division. Whilst counting in the stained films 100 leucocytes I met with no less than 16 nucleated red corpuscles of various sizes.

So-called ring bodies described by Cabot and others were numerous in the films taken on the last day. Red blood corpuscles, often showing pholychromatophilic degeneration, were seen containing red stained rings in the form of complete circles, figures of 8, or other weird shapes. These are commonly met with in many forms of severe anæmia Free rings straightened out into threads, and staining a deep red with Giemsa's stain, were commonly seen. But what I had not previously observed in other severe anæmias was the presence of long threads of a deep red colour entering into or coming out of the bodies of lymphocytes or nucleated red corpuscles. One in particular I photographed. I should think it was a nucleated red cell having a diameter of 12μ, with a nucleus measuring 7μ. Running into this or from it was a deeply red-stained thread thicker in the middle, measuring 39μ in length, of which the part outside the cell measured 26μ, whilst the remaining length which was coiled within the protoplasm of the cell was 13μ long.

Special attention was directed to the red cells in the early stages, and every attempt was made to try to find any bodies within their interior of the nature of piroplasms. In not a few red cells specks of stained substance were found, lying for the most part towards the margin of the corpuscle. These, when examined with the highest power available (about × 3000), were seen to consist of small round-shaped dots often connected together by a very fine filament. They stain with Giemsa a dark dirty red colour, and not a distinct red as chromatin generally does. My friend Mr. E. M. Nelson kindly examined some films and recognised these intra-corpuscular bodies, but naturally was not able to express any opinion on their nature. He very kindly took some micro photographs of these structures at a direct magnification of 3000 diameters. I cannot lay much stress on the importance of such minute structures, but the fact that they were visible in the corpuscles in air dried films before being subjected to any staining excludes the possibility of their being of the nature of a deposit or precipitate of stain on the surface of the corpuscle. I should add that they were most easily detected in dry unstained films when examined by dark-ground illumination, but this fact does not preclude the possibility of their being degeneration changes in the red cell.

Very prolonged and repeated examinations extending over several weeks were made of the numerous films of blood taken at all stages of this attack of blackwater fever, and as a result I would state that no form of malarial parasites or pigmented leucocytes was ever seen in the fresh preparations or in about 40 stained films most carefully and exhaustively examined.

Repeated examination of fresh cover-glass preparations both with ordinary and with dark-ground illumination failed to show anything moving in the plasma of the nature [illegible] chæta. Stained films gave the [illegible]

[illegible] *red-stained structures.*—In some of the blood films taken towards the latter stages of the disease *a few peculiar granular bodies were found. The* earliest period at which one of these was seen was the fourth day of fever, and then only a single example was found, but they were more frequent on the last day. These bodies were only found after a careful search and were always exceedingly rare. In nine films only 36 such structures were detected, giving an average of 4 per film, which was about ¾ in. square. In some preparations only one granular body was found, whilst in another film as many as 17 were noted. They were not found in any of the films taken during the first four days.

In shape these bodies are nearly always spherical, sometimes oval, and very rarely somewhat irregular in outline. They have a very definite outline, and often a thick capsule or membrane seems to surround them. (See illustration.) The protoplasm stains usually a pale blue colour, sometimes a deeper blue, at other times a bluish-red tint.

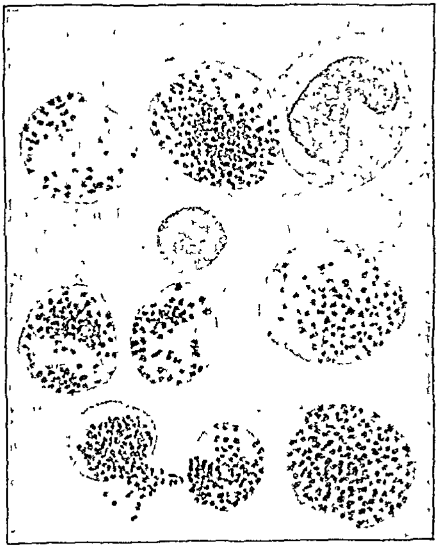
These granular bodies varied in size. The average measurement of 30 specimens was 11·2μ in the longer and 10·7μ in the shorter diameter. The smallest typical example was round and measured 5μ; the largest was oval and measured 17μ by 10μ in diameter. They do not contain a nucleus such as would be seen in a leucocyte, but contained within the protoplasm is a number of small round or oval dots which stain a deep chromatin red colour. These small structures are generally spread irregularly over the protoplasm of the cell, and are often more numerous in the centre than at the margins. The number of chromatin-stained bodies contained within one cell varies considerably, but probably there may be as few as 40 or as many as 200. In most specimens these chromatin dots are situated in a small unstained area, or each dot is surrounded by a narrow ring of faintly stained structure.

These minute intra-corpuscular bodies have a very vague outline, but when examined with the highest powers appear to consist of a dot of chromatin surrounded by a small amount of protoplasm They appear round or oval and measure about 0·3μ to 0·75μ in diameter. Somewhat larger ones are seen oval or rod-shaped measuring 0·8μ by 0·4μ. Sometimes the chromatin dot has a tail of protoplasm and the whole body resembles that of a minute tadpole. Similar bodies are met with in the protoplasm of a few very large mononuclear leucocytes.

What is the nature of these granular blue bodies containing red stained structures? The fact that they were only found towards the end of the disease when the blood was very rapidly becoming anæmic, and that they were then associated with the presence of nucleated red blood cor- [illegible] negative this theory.

The second possibility is that they might represent some form of leucocyte, such as mast-myelocyte or myeloblasts of Ehrlich and Naegeli. Against this view is the fact that they possess no nucleus; that they do not in the slightest degree resemble any of the coloured plates given by Ehrlich and Lazarus of the pathological forms of leucocytes just mentioned; and that during a prolonged period—some 20 years —in which I have been engaged in examining blood from various pathological conditions, notably the various forms of leucocythæmia, pernicious anæmia, aplastic anæmia, &c., I have never met any structures that have the slightest resemblance to these bodies.

Assuming, therefore, that these peculiar bodies do not represent any altered form of the cellular elements of the body, are they of the nature of protozoa? Are they related at all to those structures known as Koch's blue bodies, or do they belong to that vague family of cell inclusions, the chlamydozoa? Koch's granules, blue bodies, or Koch's plasma kugeln are circular, oval, or somewhat irregularly shaped cells which stain by Giemsa a blue colour and are filled with coarse chromatin granules They have been *proved by Gonder to represent certain stages in the life* cycle of Theilera parva, the parasite of East Coast fever in cattle Gonder states that on an average the agamonts measure about 10 to 12μ, rarely 12 to 15μ These structures are found in the internal organs of animals suffering from East Coast fever and a disease affecting calves in Uganda called by the natives Amakebe. They are seen in the spleen, lymphatic glands, bone marrow, and liver, but shortly before death they may sometimes be found in the circulating blood.



Blue stained granular bodies with red stained structures in their interior From a blood film preparation fixed with osmic vapour and absolute *alcohol, and stained with Giemsa.* Drawn with Zeiss' camera lucida Note the variation in size and the different number of red stained structures contained within each A granular body bursting and discharging its contents is seen at the lower left margin A leucocyte and red blood corpuscle are drawn to show relative sizes of the granular bodies.

I find that the granular bodies that I have met with in the blood of this case of blackwater fever have some resemblance to Koch's bodies, but the chromatin granules in the latter are larger, more distinctly seen, and almost always more circular than the somewhat similar bodies I have described.

Against the theory of the relationship of the granular bodies to Koch's blue bodies is the fact that they were not associated with the presence of any definite piroplasms, unless the exceedingly small and ill-defined bodies which I have described in some of the red cells be regarded as of this nature. On the other hand, it is possible that these peculiar bodies are of the nature of the chlamydozoa of Prowazek, a class of vague "organisms believed to be the cause of certain diseases of man and animals."

In conclusion, I would point out that possibly the peculiar granular bodies found in such small numbers in the circulating blood may be present in large numbers in the internal organs of cases of blackwater fever, and that they only reach the peripheral blood at the end of life. I would, therefore, suggest that those observers who come in contact with numerous cases of blackwater fever should examine smear preparations obtained during life by puncturing and aspirating a lymphatic gland, and in fatal cases have smears made from the spleen, bone marrow, lymphatic glands, and liver, to see whether analogous bodies can be found.

Bournemouth.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SPECIAL MEETING OF FELLOWS.

Continued Discussion on Alimentary Toxæmia.[1]

A MEETING of the Fellows of the society was held on April 28th, Sir FRANCIS H. CHAMPNEYS, the President, being in the chair.

Dr. WILLIAM HUNTER, re-opening the discussion, said that the subject matters of the discussion practically covered the whole series of processes which had been the special subject of his interest and investigations during the past 30 years. In the course of his studies relating to the nature of "pernicious anæmia" he had practically spent the greater part of his time in exploring in all their depths the muddy waters of the intestinal processes now brought under review. As the first and most important outcome he was enabled after three years experimental and pathological work to trace back this great anæmic disease to destructive (hæmolytic) changes affecting the blood in the portal system, induced by some special hæmolytic poison reaching it from the intestinal tract. These studies had founded and formed the basis of what had come to be termed "the doctrine of the enterogenous origin of severe anæmias," or "the toxic hypothesis" of the origin of these anæmias associated with his name and work. But although termed a "doctrine" or "hypothesis" his own work was an actual interpretation of the facts which he had ascertained experimentally—viz., that the blood changes of the disease he was studying could only be produced by special poisons which he employed. Further investigations as to the site of the lesions and the source of the infection which produced these particular hæmolytic toxins led him eventually step by step from the intestine to the stomach and finally to the tongue and to the discovery in these three organs of the infective lesions which always underlay this grave and mysterious disease. But they had also led him for the first time to recognise the far-reaching importance of the glaring septic lesions in the mouth—termed by him "oral sepsis"—as the greatest cause of infective disease in the body, and the chief cause of most of the disturbances in the alimentary tract, generally classed as toxæmic. Whatever rôle toxæmia—apart from lesions of the gastro-intestinal mucosa—played, either in health or disease, from an etiological, pathological, clinical, and practical point of view it was much more important to recognise that definite infective lesions, which were easily recognisable and in many cases could be easily dealt with, underlay nine-tenths of the disturbances of the alimentary tract which were termed "toxæmic." Dr. Hunter proposed, as his chief contribution to the day's discussion, to show by means of the epidiascope all sorts and sizes of oral streptococcal sepsis, which he would designate "the shark of the intestinal tract," and the multiple effects which it produced not only in that tract but elsewhere. He hoped he would thereby make it clear that to describe such gross and obviously septic lesions of the mouth as he then showed under the euphemistic and belittling title of "toxæmia" was as illuminating and as helpful as if one applied the term "toxæmic" to a foul septic knife or sponge. The sharpest and broadest distinctions existed and should be drawn between processes in the mouth and processes in the gastro-intestinal tract in relation to the subject of "intestinal toxæmia or auto-intoxication." The mouth processes were not toxic in their character; if they had been so Nature would have provided for it by connecting up the mouth with the portal circulation. The toxicity of the gastro-intestinal processes, on the other hand, was a great physiological fact. The portal blood was always toxic even in health; the liver was the great antitoxic and excretory organ of the portal circulation just as the kidney was the great excretory organ of the general circulation. This toxicity was not an accident, nor did it depend on any one product of gastric or intestinal digestion. All attempts to connect it with any such product had, in his opinion, been futile. Far more conclusive evidence of the natural toxicity of the portal blood was presented every day in the facts of disease—in the disturbances connected with inefficient activity or actual disease of the liver. The most common evidences of portal toxicity were, in his judgment, those presented daily in surgical practice in the phenomena of the sickness, vomiting, headache, and sense of illness following the administration of anæsthetics, more particularly after prolonged administration. These were not due to the poisonous action of the anæsthetic *per se* on the nervous system, nor yet to the presence of food in the stomach or intestine; they were the direct result of the depressed activity of the liver cells induced by the anæsthetic and the consequent imperfect detoxication of the portal blood passing through the liver. If the energy of the liver cell (already depressed by disease and intensely aggravated by the unsound clinical practice of withholding food unduly from the patient prior to operation) completely failed, it became in consequence the victim of its own digestive ferments and its own self-digestion with resulting acute fatty degeneration and acute necrosis. The portal blood passed unchanged into the general systemic blood, producing the fulminating toxic disturbances of continuous sickness, vomiting, hæmatemesis, delirium, and coma, which characterised post-chloroform poisoning. Precisely the same phenomena producible experimentally (in Eck's fistula) by connecting up the portal vein directly with the inferior vena cava. He divided the causes of portal toxicity in health and disease into two classes—(1) non-infective causes, the various products of digestion formed by the ferments of the gastric, pancreatic, and intestinal digestion; and (2) infective causes, the various products formed by the action of bacteria on the food products, which were far more important as a cause of natural portal toxæmia. In health the chief and most abundant were those of the coli group. The degree of putrefaction varied according to the amount of proteid in the food, on the one side, and according to the abundance of coli on the other. The provision made by nature for due regulation of the latter was: first, the daily removal of the mass of excrement, alike of food and of organism in the fæces; and secondly, the provision of protective mucus which lined the whole gastro-intestinal tract, and of protective muscular movements which kept the whole gastro-intestinal contents in more or less continuous movement. In short, they were being continuously "moved on." Chronic constipation was therefore a highly unnatural condition and always a source of increased portal toxæmia. That it might exist in certain individuals as an almost permanent condition without apparently causing ill-health was solely due to the power and protective action of the liver. It was not any evidence of the comparative harmlessness of constipation *per se*, but only an evidence that some individuals possessed the cæcum and colon of an ox with the liver of a pig, capable of doing any amount of detoxication. The influence of the lactic acid group of organism in modifying the character and lessening the degree of putrefactive changes in the intestine was great and important. It had been investigated by him both by experiment and by clinical studies some 25 years ago, and recorded by him before the Royal Society (1890). The lactic acid group were the least harmful and most beneficent group of organisms in the alimentary tract There were therefore, in his opinion, absolutely sound physiological, pathological, and clinical grounds for the use of sour milk in conditions of intestinal putrefaction The third group of organisms present in the alimentary tract in health was the streptococcal group It was always present, but little obvious in health, and probably playing nothing but a saprophytic part in the intestinal processes But in the light of his experience it played an altogether different and mightily important part in disease It was responsible more than all the other normal organisms of the alimentary tract for the various disturbances and lesions of that tract which underlay the clinical conditions generally termed "toxæmic" There was a great pathological reason for this —viz , that the streptococcal group, however few or harmless they might be, or appeared to be, had always an intense capacity for local invasion, for causing local lesions, and for persisting in such lesions when formed They were always capable of taking advantage of any abnormal conditions, whether of the food or of the mucosa, and of becoming thereby not only saprophytic but actively pathogenic, both by increase in their number and by actual invasion of the mucosa The best example of this was afforded in the case of the summer diarrhœa of children Hence it was important to keep a close watch on the conditions that favoured the presence of streptococci or led to any accession of their numbers and virulence, and such conditions were pre eminently furnished by the septic wounds of the mouth—the conditions termed by him "oral sepsis" (1900) They furnished a continuous supply of streptococci to the alimentary tract, lower down, much of it doubtless exterminated by the bactericidal action of the gastric juice, when the digestion was in progress But much of it equally with-

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[1] THE LANCET, March 15th (p. 754), April 19th (p. 1093), April 26th (p. 1163), 1913.

[illegible]

it found everything ideal, short of this periodic removal by the peristaltic action of the bowel, for its propagation and persistence He had endeavoured to fasten attention on the rôle played by streptococci in intestinal disturbances—looseness, diarrhœa, &c —and lesions—e g , congestions, inflammations, ulcerations, &c —by giving to these disturbances and conditions the titles of "septic gastritis" of "septic enteritis" (meaning thereby streptococcal enteritis), "septic colitis," "septic proctitis" "septic appendicitis,' "septic cholecystitis," &c He thought the time had come

substituted for purely

catarrh," "gastric

colitis," "ulcerative

colitis," and still more for such vague names as "toxæmia' Oral sepsis, he continued, could, and frequently did, make the whole alimentary tract run red with disturbances to a degree which had more and more impressed him with its importance, and which had led him to recognise streptococcal sepsis and its results—viz , "oral sepsis," "septic gastritis," "septic enteritis" and "septic colitis," &c —as one of the commonest and most important causes of disturbance throughout the whole alimentary tract The reasons why the mouth was so important in relation to septic infections generally were as follows The structure and function of the gums and teeth exposed them in a special degree to violence and to injury and to consequent contraction of septic wounds of the gums and periodontal membrane (periosteum of the bone socket) When infection took place it was from its situation particularly difficult to eradicate after it had got into the socket It was then connected with bone tissue, and bone sepsis was far more virulent and toxic in its effects than sepsis of soft tissues Lastly, these wounds were in direct relation to the systemic blood without any intervening detoxicating organ like the liver to arrest or modify the toxins which they produced or the extension of the infection into the blood Oral sepsis was therefore a double handed weapon of offence in relation to the blood It could act on the blood directly, and constantly did so But the continuous stream of streptococci which it propagated passed also over the tonsils and pharynx into the gastro intestinal canal, where it modified the existing normal bacterial activities and produced in varying forms and degrees all the effects of congestion, inflammation ulceration, which it produced in and around the teeth These included acute, subacute, and chronic septic tonsillitis and pharyngitis, all degrees of adenitis, acute, subacute, and chronic gastritis, with formation of gastric erosions and ulcers, acute, subacute, and chronic congestions of the small intestine, appendix, cæcum and large intestine, and of the rectum, with and without ulceration, with or without formation of bands All these conditions were obvious and recognisable, and could be seen in the specimens he showed

SIR BERTRAND DAWSON said that the term "alimentary toxæmia" conveyed a definite clinical picture That such a condition might be produced by colon block and stasis was clear, and that when produced it was curable by putting the colon out of action by short circuiting was demonstrable His criticism would be that Mr Lane gave too great a prominence to motor defects He (Sir Bertrand Dawson) thought that the question needed a broader basis The gastro intestinal tract from mouth to anus must be viewed as a whole and from two standpoints—the motor and the infective Colonic block was not necessary to alimentary toxæmia, for it might equally well be caused by chronic infection, say of the gums, stomach, or appendix, and might be associated with diarrhœa and an empty colon That the colon had become hopelessly diseased and could not be made a working structure was the chief indication for ileo sigmoidostomy The sequence might be in one case, infection—stasis, in another stasis—infection If an infection it might begin in the gums, tonsil, or stomach, and finally manifest itself in the appendix or colon, or the ord

reversed, and starting

in either

ndarily cause chronic

infective

an ulcer As regards

treatment, he urged that all cases should be investigated from both the infective and motor standpoint It would be a tragic result of the discussion if it were followed by a "fashion" for ileo sigmoidostomy

Dr E MELLANBY said The aspect of the subject of alimentary toxæmia that I propose to deal with is the chemical one, for recently certain chemical substances have come under consideration which seem to throw some light on the subject, and are worthy of further investigation Before proceeding with the consideration of these substances I think it is permissible, even if only because of the treatment they have previously received in this discussion, to suggest that we throw overboard one group of chemical substances which until recently has received the exclusive attention of chemical researches on alimentary pathology I refer to the tryptophane derivatives and especially to indoxyl sulphate, the substances responsible for the indican test I make this suggestion for two reasons 1 That this substance, although it has been the cause of tremendous labours, including that of Herter and his co workers and the Metchnikoff school among many others, has led to no results No doubt the fact that its formation depends on several factors, of which intestinal putrefaction is only one, is the principal reason of the divergence of opinion on the subject For myself, I may say that in order to obtain a urine which gives the best indican test for medical students, it has been my custom to get that of a case of cancer of the liver rather than of a case of marked constipation 2 The indol derivatives are all relatively innocuous compared with other substances which can be obtained in the alimentary canal From a positive point of view the group of substances which I think can be readily assigned a position of importance from the point of view of alimentary toxæmias are the amines produced by splitting off CO_2 from the proteolytic amino acids by intestinal bacteria The most important of these amines have been referred to by the opener of the discussion, and are parahydroxyphenylethylamine—the amine of tyrosine isoamylamine, the amine of leucine and β imidazolethylamine, the amine of histidine Research workers have recently been attracted to these substances in consequence of the discoveries of Barger and Dale, who first isolated them from ergot and worked out their pharmacological action Their actions I need not dwell upon, as they have already been dealt with by Professor Dixon, but I may remind you that they are all very potent stimulants of plain muscle, and whereas p hydroxy and isoamyl raise the general blood pressure, β i has a marked depressant action That parahydroxyphenylethylamine and isoamylamine may be responsible for chronic symptoms of intestinal toxæmias such as arterio sclerosis seems to have been proved by the work of Harvey, who produced marked arterio sclerosis and a renal condition resembling the large white kidney by giving small quantities of these substances by mouth to animals over prolonged periods. I must confess that these results are surprising, especially when one remembers the ease with which parahydroxyphenylethylamine is rendered innocuous by having its amine replaced by a hydroxyl group and then oxidised to parahydroxyphenylacetic acid by an isolated liver prepared with Ringer's solution, as has been shown by Ewins and Laidlaw. From the point of view of acute intestinal disturbances, [illegible] must be considered. This substance [illegible] from the mucous membrane of the alimentary canal by Barger and Dale in their endeavour to identify it with the hypothetical substance of Popielski called "vaso dilatin." The mucous membrane of the intestine offered the best material for such research, for it has long been known that a watery extract of the intestine produced a very large fall of blood pressure and other toxæmic symptoms when injected into animals. In a paper on cyclic vomiting in children I stated that Twort and myself[2] had isolated a bacillus from the alimentary tract capable of splitting off a molecule of carbon dioxide from histidine and converting it into β-imidazolethylamine. Dale and Laidlaw had shown that injection of small quantities of β-i. caused, among other symptoms, marked diarrhœa and vomiting, and I suggested that the absorption of this substance into the blood stream from the intestine might be responsible for the exacerbations of symptoms in cyclic vomiting. Since this time Berthelot,[3] a Frenchman working in Metchnikoff's laboratory, has also isolated a bacillus from the intestine capable of carrying out the same action. This bacillus he has called the Bacillus aminophilus intestinalis, because of its power of attacking amino-acids. We make no such general claim for our bacillus, although there is evidence that it will attack some substances such as tyrosine and alanine. One other point where we differ from Bertrand and Berthelot most emphatically I wish to deal with. They say they can only isolate the bacillus from the intestinal contents of cases showing intestinal disorder and not from normal healthy animals. This is absolutely contrary to our experience, for we have never failed to obtain most potent histidine-destroying bacilli from any alimentary canal of normal animals that we have examined. One surmises, therefore, that Bertrand and Berthelot ascribe the symptoms of intestinal disturbances to this bacillus whenever it is present. Twort and I, on the other hand, think it is present in all alimentary canals, and that its products of activity only produce symptoms under special circumstances. The fact that Barger and Dale isolated β-imidazolethylamine from the intestinal mucous membrane of normal oxen supports the view that the bacillus is a normal inhabitant of the intestine. Its distribution is affected by the diet to some extent, for a cat that has lived on an exclusive meat diet has the bacillus higher up towards the duodenum than a cat on a milk diet. Since β-imidazolethylamine is present in the normal alimentary mucous membrane, the question arises as to why it lies in an apparently innocuous state without the production of symptoms, and also what would happen if there was an increased production of this substance in the intestine. The answer to the latter question seems clear. If minute quantities of β-i.—say 10 mgr.—be injected either intravenously or subcutaneously into a cat, then very marked symptoms of diarrhœa, vomiting, and general collapse appear immediately. If large quantities—i e., up to 500 mgr.—of β-i. phosphate be given so as to obtain access to the small intestine—i.e , in keratin capsules—then the only symptom which follows is that of diarrhœa with watery, acid stools. But there is no vomiting and general collapse—in other words, the β-i. has acted locally on the alimentary canal producing greatly increased peristalsis, but it has not been absorbed into the blood stream to produce the more important toxæmic symptoms. Without suggesting that β-i. is responsible for all the symptoms of such an acute condition as summer diarrhœa and vomiting of children, although I think it plays an important part in such conditions, and may be regarded as typical of a larger group, it seems to me that the facts just related as to β-i throw an important light on this condition. For it is clear that if β-i. is normally present in the alimentary canal, and if even when large quantities are present no general symptoms of poisoning are produced, then clearly it can only mean that when acute intestinal symptoms are produced they are due to the breaking down of the defensive mechanism of the intestinal mucous membrane which prevents the entry of β-i. into the blood stream. Such a view as this would imply that there are all the potential factors, including intestinal flora and toxic chemical substances, present in the alimentary tract of all normal animals, and that the difference between the summer diarrhœa child and the normal child is due to the breakdown of the absorptive mechanism of the intestine, and to that alone. Further evidence to this effect—viz., that the factor of importance to be considered is the absorptive mechanism and not an excessive production of toxins in the intestine—is the fact we showed that β-i. is never produced from histidine in the presence of carbohydrates and acids. Also, the acid fermentation of carbohydrates in acute intestinal disturbances is notorious, and it is unlikely that there is any production of β-i. at such times. The acid fermentation products are themselves relatively innocuous. This view would further point to a different line of inquiry for the elucidation of alimentary toxæmic conditions than that usually undertaken. For it suggests that the key to the situation is not held by a consideration of the bacteria of the intestine or of the chemical end-products of bacterial action, but rather by knowledge as to the normal method of intestinal absorption, and more particularly of the mechanism which prevents the passage of toxic substances across the mucous membrane into the bloodstream. The important question is, What is the cause in acute intestinal disturbances which brings about the breakdown of the defensive mechanism and allows the entry into the bloodstream of toxic substances? All research on this subject is handicapped by the fact that from a physiological point of view the process of intestinal absorption is almost a virgin field. The general trend of modern physiological research work on the alimentary canal seems to me to indicate another method whereby pathological symptoms may be traced to the intestine. In the first place we had Bayliss and Starling's striking discovery of secretin—a substance liberated from the duodenum by HCl of the gastric juice, and so causing pancreatic activity. The detection of gastin followed this—a substance in the pyloric end of stomach mucous membrane which was liberated into the bloodstream by various substances, including meat extract, and caused a further secretion of pepsin and HCl by the fundus mucous membrane. Again, quite recently, the results recorded by Low of work done in Hans Meyer's laboratory indicate that water taken by mouth acts as a diuretic, not by its direct action on the kidney, but indirectly by liberating some substance from the alimentary tract which stimulates the kidney to secrete water. He showed that a watery extract of alimentary mucous membrane injected subcutaneously caused marked diuresis in dogs, and if the extract was boiled it lost its diuretic effect. Such results as these, which prove the presence of chemical stimulants in the alimentary wall, make one wonder whether a generalisation is possible, so that each organ in the body is stimulated to activity by some specific chemical substance present in the intestinal mucous membrane, each specific stimulating substance being liberated by a particular foodstuff. If such a premise is correct it is clear that all sorts of symptoms might arise when an excess or a deficiency of the specific chemical stimulants is liberated into the blood stream in consequence of abnormal intestinal putrefaction or other disturbance. Work based on such a hypothesis might be useful in elucidating the causal relationship between some of the more obscure pathological conditions—as, for instance, diabetes—and the alimentary canal.

Dr. ETTIE SAYER said that her contribution to the discussion was evoked by Dr. Hale White's remark that "alimentary toxæmia has never been produced experimentally." It seemed important not to omit reference to any therapeutic procedure which involved the risk of producing the condition accidentally. One of such procedures was the attempt to reduce a raised blood pressure by means of high-frequency currents in cases of chronic auto-intoxication during periods of constipation. An excessive absorption of entero-toxins might be set up which would not only send the pressure higher, but might also produce an acute exacerbation of toxæmia. Dr. Doumer, of Lille, first pointed out that the absorbent cells of the alimentary tract naturally shared in the general increased chemical activity, and that if the bowel was loaded with retained matter which had undergone bacterial, and possibly putrefactive, changes there would be a correspondingly increased absorption of entero toxins Dr Sayer said that she had never seen so severe a case of simple constipation and toxæmia that it necessitated the removal of the colon, but had come across a considerable number which after resisting all drug treatment had yielded to electricity The forms most frequently indicated were either static or galvanic Static wave currents, or in very severe cases static induced currents, were indicated in atonic or debilitated cases where there was want of muscular power, characterised either by ptosis or by dilatation of any of the organs, and especially where local symptoms preponderated over those of systemic toxæmia Galvanic currents acted more particularly by ionisation, and were employed when it was desired to affect the mucous membrane and secretory cells rather than the muscular coat of the intestine When toxæmia preponderated over local symptoms she had found a combination of high frequency, radiant light baths and massage the best treatment For bad local patches of fibromyositis ionisation with lithium iodide gave most relief In cases of auto intoxication where the blood pressure was raised, high frequency treatment had its most important value She would like to concur with those who considered that a healthy colon was much better than no colon Before being subjected to its removal patients ought to have a guarantee that every resource of conservative medicine had been exhausted on their behalf

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[2] THE LANCET, July 1st, 1911.

[3] Comptes Rendus de l'Académie des Sciences, July 24th, 1911.

Dr J SIM WALLACE said Alimentary toxæmia is due to certain abnormal conditions giving rise to undue lodgment and proliferation of micro organisms and defective elimination or control of the toxins generated We may further say in general that these conditions are induced or predisposed *to by lack of function in or near the situation where the* toxins are produced Upon recognition of the natural or physiological methods of control of the bacteria and the toxins produced can we best base a scientific and practical treatment The chief function of the saliva *is to keep the mouth in a hygienic state, to remove* food which by stagnating would undergo fermentation or putrefaction, and to control the products of fermentation sufficiently thoroughly to prevent injury to the teeth or mucous membrane of the mouth The mucous coating *over the teeth prevents acid foods from doing them harm,* and if a meal be finished with due regard to the hygiene of the mouth—e g, with fresh fruit—the mucous plaques are [illegible] G Gies) disorganised Thus, [illegible] with adherent bacteria and food [illegible] *ack of function predisposes to* alimentary toxæmia The primary function of the teeth is the *mastication of food* but the mastication of food of a detergent nature has a second function—namely, the prevention of the undue stagnation of bacteria and *food débris about the teeth The earliest effect of such* stagnation is a slight inflammation of the gum margins surrounding the necks of the teeth—that is to say, where from lack of function the greatest amount of stagnating bacteria and food débris is located When the stagnating bacteria *and débris at the necks of the teeth give rise to toxæmic* symptoms a rarefying osteitis may be set up, especially when, through lack of function, the ligamentous tissue and the alveolar processes are weak The rational treatment, then, of oral mal hygiene is the restoration of the normal *function of mastication, and the stimulation of the self* cleansing processes of the mouth In addition to food requiring efficient mastication, it is desirable to insist, as far as may be possible, on [illegible] -taining a certain amount of [illegible] leansing function of the sali [illegible] *Acids* call forth a copious [illegible] There need be no fear of the acid in fresh fruit or vegetables injuring the enamel of the teeth, this is amply provided against by the mucous coating on the teeth and a copious *flow of alkaline saliva Furthermore, the after flow of* saliva under such a *régime* clears the mouth not only of stagnating food particles and bacteria, but also washes away the disorganised mucus Remarkably excellent results are obtained by the ordinary surgical procedures, provided always that these artificial procedures are more or less consistently supplemented by a dietetic *régime* which stimulates the functional activity and self cleansing processes of the mouth When we turn to a consideration of alimentary toxæmia beyond the mouth, we note a general similarity in causation—i e, insufficient motor activity of the stomach and intestines and insufficient or perverted secretion of the bile It is of the greatest importance to take into consideration the fact that "although itself without bactericidal property the bile *nevertheless checks intestinal putrefaction—(a)* by exerting a selective influence in favour of certain organisms, such as the colon bacillus, to the disadvantage of the anaerobic promoters of putrefaction, (*b*) by inhibiting the secretion of the bacillary ferments, and (*c*) by stultifying the action of these bacterial ferments on putrescible material" Moreover, the bile "countervails the effects of the toxic products to which the intestinal bacteria give rise" (H Roger) I am convinced that if a tenth part of the attention had been paid to the value of food from the point of view of alimentary hygiene that has been paid to its nutritional value the treatment of alimentary toxæmia would have been far more rational and satisfactory than it at present is

Dr W BEZLY THORNE drew attention to the fact that 17 years ago he had delivered an address on self poisoning and heart disease which had been published in THE LANCET under that title[4] He was now more than ever convinced of the intimate connexion between the two conditions Without minimising the importance of pyogenous and other toxins, he contended that the main cause of toxæmia as affecting the circulatory organs was alimentary in origin He expanded his views as follows Normal fæcal matter was not toxic, and might be retained for two or more days with only unimportant discomfort Fluid stools, if of frequent or habitual occurrence, were always toxic Habitually pale stools were toxic, as they represented interference with the flow of the biliary and pancreatic juices, a condition *prohibitive of the normal biochemistry of digestion* and necessarily involving morbific bacterial activity The mucosa of the pelvic colon and rectum not being able to discriminate between a normal saline injection and fluid fæces, a man who frequently had fluid toxic stools, whether *as the result of saline aperients or of a morbid condition,* underwent rectal feeding on his excremental poisons Such toxæmia conduced in a high degree to degenerative change in the myocardium and in the arterial tissues, especially the tunica media Dr Thorne proceeded to give instances in *which careful dieting and intestinal correction had reduced* maximal sphygmometric readings in the higher grades by 40, 50, and more mm Hg

Dr H G ADAMSON said that the supposed relationship between skin eruptions and alimentary toxæmia had attracted *much attention, but it was a subject about which we knew* really very little Eruptions of urticarial and erythematous type were of common occurrence after ingestion of certain food poisons These were now regarded as phenomena of anaphylaxis to foreign proteids But they were, strictly *speaking, not the result of alimentary toxæmia in the sense* in which it was being used in this discussion, and he knew of no eruption which could be definitely traced to the bacterial flora of the alimentary canal, or to any *known chemical* body produced there The theory that various skin diseases *supposed not to be of microbic origin,* such as eczema, psoriasis, lichen planus, pemphigus, scleroderma, lupus erythematosus, and alopecia areata, were the results of toxins produced in the alimentary canal had some attraction, but we had no facts to support it And the results of attempts *to prove absorption of chemical products from the intestine* by estimating the amounts of ethereal sulphates and aromatic bodies in the urine had been inconclusive It seemed probable that if such bodies existed they were immeasurable by ordinary chemical methods and that we had to look to *bio chemistry for their discovery*

Dr R MURRAY LESLIE said that putrefactive changes in the intestines of healthy persons under normal conditions produced no evil results whatever, and probably fulfilled a most useful rôle in the animal economy In the great majority of *instances the protective mechanism of the* healthy organism was more than sufficient to counteract the deleterious effect of any toxins that might be produced by the various bacterial flora that normally inhabited the gastro-intestinal canal. In the course of evolution the human host had adapted itself to the presence of those bacteria which had selected the intestinal canal of man as their normal habitat. Should, however, the vital protective forces be at a low ebb from any cause, or should the intestinal flora as the result of stasis or other cause be abnormally numerous or consist of abnormal types, or should they invade portions of the intestinal tract remote from their usual habitat, then symptoms of alimentary toxæmia would sooner or later ensue. In the discussion sufficient stress had not been laid on the first of these two factors—viz., the power of resistance on the part of the individual. The different effects of constipation on different individuals illustrated the importance of this point. Habit tolerance alone did not altogether account for those differences, and there were undoubtedly individual idiosyncrasies in respect of liability or resistance to alimentary toxæmia. Evidence was accumulating that the specific action of the thyroid, genital, and other ductless glands played an important part in regard to the vital resistance to the action of alimentary and other toxins. Dr. Leslie found considerable benefit accruing from the giving of various extracts containing the products of internal glandular secretions. It was, however, with the second factor—namely, the increased quantity or virulence of the alimentary toxins—that they had been principally concerned in the present discussion, and it was of paramount importance to decide which were the conditions in the alimentary tract that predisposed to increased production of such toxins. The bacteriological evidence brought forward pointed unmistakably to intestinal stasis as being pre-eminently the condition favouring such production. There was not only increased bacterial multiplication, but abnormal intestinal flora, while the prolonged retention of the bowel contents offered special opportunities for undue fermentative activities of the bacteria and for the absorption of their toxic products. The effect of the stasis also tended to cause upward spread of the coliform and other bacteria into the small intestine, the mucous membrane of which was much more absorptive than that of the colon. The most characteristic of Dr. Leslie's cases of alimentary toxæmia had all been associated with visceroptosis and intestinal stasis. It was evident from the observations of several of the speakers that the actual quantities of indican and skatol—comparatively inert substances—that may be found in the urine must not be accepted in any sense as a criterion of the degree of alimentary toxæmia present in any individual case. The degree of toxæmia should for all practical purposes still be judged by the intensity of the clinical manifestations, while bacteriological and chemical investigations were principally of service in indicating the nature and source of the toxæmia. There was much evidence in favour of the view that many so-called blood affections, such as pernicious anæmia and Henoch's purpura, were in reality manifestations of alimentary toxæmia. He (the speaker) was a strong believer in the existence and importance of the various peritoneal adhesions and kinks described by Mr. Lane and others. The interesting evidence produced by Professor Keith in regard to the formation of peritoneal adhesions in the human embryo as early as the third or fourth month of intra-uterine life did not in any sense contraindicate the formation of similar structures in post-natal and adult life. The antenatal adhesions, many of which were only found in the case of man and the anthropoid apes, were doubtless developed to prepare the animal for the upright posture, while the post-natal adhesions were also connected with the assumption of the erect attitude, but were developed so as to counteract gradually the increasing weight of the abdominal viscera, particularly the cæcum and colon, which tended to get overloaded with solid and semi-solid contents. He had frequently witnessed X ray and operation demonstrations of these adhesions in the case of his own patients, and had almost invariably found the adhesive bands in the direction of the lines of resistance to vertical downward displacement. Patients with symptoms of chronic alimentary toxæmia, associated with stasis, if left untreated, were extremely apt to relapse into a condition of physical and mental asthenia and chronic invalidism and were further peculiarly liable to intercurrent acute and chronic disease. Treatment of some kind must be initiated to redress the balance of opposing forces—the vital resistance on the one hand and the degree of toxæmia on the other. The vital forces might be stimulated by hygienic, dietetic, and other remedies, by vaccine and enzyme therapy, and by the giving of various glandular extracts containing the products of internal secretion. The production of bacterial toxins must be diminished and their elimination facilitated. In early cases simple remedial measures, such as diet modifications (particularly reduction in animal proteids and the substitution of vegetable and purin-free diet for a certain period); aperient remedies and lubricants, particularly liquid paraffin; abdominal massage; supporting belts and physical exercises, were usually quite efficacious. It would be observed that most of these methods favoured elimination of toxins by relieving intestinal stasis, and although mere association of stasis with toxæmia did not, as Dr. Hale White stated, prove causation, still it was surely more than a coincidence that the toxæmic symptoms often entirely disappeared when the remedial methods adopted had removed the stasis. Petroleum should often be given in large doses—e.g., ½ to 1 oz. taken two or three times daily. In the speaker's experience intestinal stasis was much commoner in private than in hospital practice, and he attributed this fact to injudicious diet and habits on the part of the better classes. The substitution of a two-meal diet for the three-meal diet of to-day would probably be a great advantage. There was, however, a minority of aggravated cases with progressive emaciation and debility, and other symptoms threatening the life of the patient, where dietetic, lubricant, hygienic, and other simple measures, however carefully carried out, would fail, and his experience of a considerable number of such instances had led him to advocate strongly having recourse in these circumstances to surgical interference, with the object of removing the poison manufactory, which was usually in the colon and terminal portion of the small intestine. By far the most satisfactory surgical measure was that of short-circuiting the ileum into the pelvic colon, thus throwing the greater part of the large intestine out of action, and thereby enormously accelerating the passage of the intestinal contents. In such cases it was not only unreasonable, but also inimical to the patient's best interests to refuse to resort to operative interference. In Dr. Leslie's experience it had been those cases of visceroptosis, where the cæcum and other portions of the large intestine were bound down by adhesions below the level of the brim of the true pelvis, that simple non-operative measures often failed to give permanent relief. If there was a controlling mechanism at the ileo-cæcal opening, as suggested by Dr. Elliott and others, this would be specially apt to be interfered with in such instances, while this condition would also predispose to the formation of kinks. In most of his cases in which simple measures had entirely failed to give relief, and recourse had been had to a short-circuiting operation, accompanied in one case by colon resection, the resulting benefits had been little short of marvellous.

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[4] THE LANCET, March 21st, 1896 p 7[illegible]5

Mr. J. LEWIN PAYNE said that the chronic nature of the complaints associated with alimentary toxæmia was largely due to the fact that a vicious circle was established, and when once oral sepsis had led to gastro-intestinal troubles the oral sepsis itself might be kept active by the secondary complaint. The amount of sepsis arising directly from dental caries was probably small, but indirectly it led to many infective processes. Pyorrhœa alveolaris was the commonest source of infection in the mouth. Dental caries and pyorrhœa alveolaris were seldom both well marked at the same time, which might be explained on the ground that caries was caused by fermentation and the production of acids, whereas pyorrhœa was a putrefactive process. He doubted whether direct absorption of organisms and toxins occurred in the mouth, through the gum, periodontal membrane, or alveolus in cases of pyorrhœa alveolaris. The chief source of infection appeared to rise from swallowing unmasticated and contaminated food. The restoration to normal activity of the mouth and teeth was an important factor in the treatment as well as in the prevention of alimentary toxæmia. Probably the chief influence in reducing the functional activity and masticatory force was the diet. He believed that pyorrhœa alveolaris was a curable disease, and the proportion of cases which could be cured without extraction was increasing. He felt strongly that by recommending wholesale sacrifice of teeth they were shirking the problem which faced them, and was convinced that the dentist of the future would not rest satisfied with that attitude. He spoke in favour of vaccines.

Dr R ACKERLEY spoke of the importance in this connexion of certain habits of civilised life and ways of dealing with food leading to imperfect insalivation No serious attempt was made to teach young children the method of insalivation. Only by active sucking was any appreciable quantity of saliva obtained He suggested that saliva had anti bacterial action, and also improved digestion and absorption of food The chief cause of abnormal conditions of the mouth was absent or imperfect insalivation

Mr S F ST J STEADMAN [illegible]
who had studied the etiolog
possibly support Mr Arbuth
secondary to intestinal stasis Pyorrhœa alveolaris was brought about by the lodgment and subsequent decomposition of carbohydrate and other soft sticky food clinging around and between the teeth If Mr Lane was correct in supposing that it was secondary to intestinal stasis, due to man's upright posture, how did he explain its occurrence in the domestic animals? It was common in all animals subjected to the will of man—i e , when their natural diet of raw uncooked food was replaced by sticky carbohydrate food He agreed with Mr Goadby that the toxins absorbed by the blood stream in close contact with the areas of rarefying osteitis in the jaws was even more important than the mere swallowing of pus He could not, however, agree with his vaccine treatment of pyorrhœa alveolaris He had watched Mr Goadby's work for some time, and was bound to confess that he was not able to corroborate the results he claimed He had not been able to detect improvement either in the local condition or in the constitutional symptoms in those cases where no local treatment had been carried out Where such treatment had been carried out there was sometimes an improvement, but he thought that was due to the local treatment and not to the vaccine He pointed out that in the majority of cases, even when great care was taken to prevent outside contamination, a swab taken from the pockets nearly always showed a mixed infection It was extremely difficult to determine which organism was the cause of the trouble in each individual case The only way at present was to take the patient's opsonic index to each organism isolated, and the result obtained was at present unreliable He thought that, in view of the fact that hundreds of teeth were being extracted for pyorrhœa alveolaris each week without any ill effect from the operation and without a previous course of vaccine, Mr Goadby s statement that a course of vaccine treatment before operating was essential for fear of dangerous constitutional symptoms could not be accepted He had himself performed this operation of extensive extraction a great number of times, and had not seen any ill effect if care was taken to render the area of operation as clean as possible before operating He agreed with Mr Goadby that extraction of the teeth for pyorrhœa was a confession of failure, but the same could be said of the surgeon who removed a leg for sarcoma An honest confession of failure was often the best course in the interest of the patient It was no advantage to a man to save either his teeth or his leg and lose his life He thought that though an educated person who was able to give a considerable amount of time and trouble to the cleansing of the mouth could sometimes arrest the disease it was incurable in the poorer classes once it was established He thought that considering the risks such patients ran of becoming chronic invalids, and consequently being constantly among the unemployed, and realising the hardship this caused among their dependents, it was a grave offence against the patients and the community to allow them to retain their teeth without clearly placing these risks before them

SECTION OF MEDICINE

Gout and Chronic Rheumatism —Ambulatory Treatment by Means of Tuberculin

A MEETING of this section was held on April 22nd, Dr FREDERICK TAYLOR, the President, being in the chair

Dr H LYON SMITH read a paper on Gout and Chronic Rheumatism, their Etiology from the Bacteriological Standpoint, and some Notes on Treatment It was based upon observations made over a period of three years on nearly 200 cases, which had been differentiated clinically and referred to as gout or chronic rheumatism respectively, yet presented many points in common Both types were examined from the bacteriologist's point of view as if they were infections of a chronic nature, and there was a close resemblance in the findings The conditions common to both included arthritis, single or multiple, periarthritis, aponeurositis, neuritis or perineuritis The associated chronic lesions which served as foci of infection—e g , pyorrhœa, chronic pharyngitis, post-nasal catarrh, bronchitis, gastro intestinal catarrhs, urethritis, cystitis, pyelitis, vaginitis, endometritis, salpingitis, and some forms of dermatitis—were briefly referred to The importance of early recognition of marginal gingivitis as a precursor of pyorrhœa alveolaris, with its attendant arthritic troubles, was insisted upon The commoner pathogenic microbes concerned in chronic inflammatory conditions and associated with gout and chronic rheumatism, such as the streptococci, staphylococci, the bacillus coli group, pneumococci, bacillus influenzæ, the diphtheroid group, gonococci, micrococcus catarrhalis, B tuberculosis and micrococcus melitensis, had been found in certain cases to play leading *rôles, but the majority of cases were due to mixed infections* This augmented the difficulty in treatment as the immunising process necessarily became much more complicated Where it had not been possible to use exact diagnostic methods, such as the opsonic index, &c , frequent bacteriological examinations of pathological exudates had been made and the clinical responses to tentative inoculations had usually been quite significant He referred to an unusual type of case, in which the diphtheria bacillus appeared to be the source of trouble and antitoxin was used with striking results, and to some illustrative cases in which a marked alleviation of symptoms was obtained by inoculation methods falling far short of complete immunisation It was impossible to summarise or dogmatise on such a subject Its protean aspects suggested a protean etiology It seemed to be agreed that alimentary toxæmia was the probable source of the various symptoms designated gout or chronic rheumatism It could be demonstrated that the ferments produced by certain bacteria acting upon various foodstuffs, besides causing the bewildering cleavage of proteins, hydrocarbons, and carbohydrates, could give rise to the formation of various organic acids—e g , lactic, acetic, butyric, hippuric, and oxalic It hardly seemed logical to cut down any one section of the diet table in the hope that by starving the host we might kill the parasite A more rational procedure was to aim at raising the specific immunity of the host to whichever pathogenic bacteria appeared to beset him most actively, taking for our models methods which had successfully produced immunities in the research laboratories

Dr T D LISTER read a paper on the Treatment of Ambulant Cases of Pulmonary Phthisis by Tuberculin (T R and B E) in the out patient room He said that several disadvantages attended on the attempt to carry out tuberculin treatment in a small out-patient department in a special hospital This arose partly from the difficulties of the patient and partly from those due to intermittent observation After a few years' experience of administration of tuberculin in the wards he started giving it to out-patients The first difficulty was to decide what observations it was possible to make Apart from the temperature chart and the general condition of the patient in relation to his physical signs truly scientific observation seemed impossible without a special department and a large number of highly qualified helpers Not every out patient had the intelligence to take his temperature accurately, and the directions given must necessarily be as simple as possible His instruction was for patients to take their temperature by mouth on waking in the morning, usually about 7 o'clock, before taking food or drink, and in the afternoon one hour after tea The thermometer was supplied for a few pence from the hospital dispensary , the charts, which lasted six weeks and were replaced when completed, were distributed in the consulting room When the patient's temperature was not verified by a medical man or district nurse one could judge only by internal evidence as to the patient s accuracy If doubt arose no treatment was begun until the patient could get further instruction or assistance The charts were kept for some weeks before he felt justified in beginning the administration of tuberculin The weekly interval did not afford the most scientific method of administering tuberculin In the wards, where patients were under continual observation, doses could be spaced with a better regard to negative and positive phases in so far as these might be inferred from the temperature chart. Difficulties also arose from irregular attendance under certain conditions of employment, from temporary migration, and from varying ability to secure adequate nutrition, in the same patient. Therefore when reactions (which he endeavoured to avoid) occurred there was not the same control over the patient as in the wards of a hospital or sanatorium. Some patients, however, took a very intelligent interest in their treatment and rested as directed immediately on any rise of temperature. For these and other reasons the out-patient treatment of pulmonary phthisis by tuberculin could be carried out with any justice to the patient and one's self in only a limited number of cases, but for this limited number of cases it was useful, justifiable, and expedient. In the selection of cases for tuberculin treatment in an out-patient department there was even a greater need for care than in making the selection for the sanatorium. As immunising ability depended on the active condition of the blood and tissue cells, nutrition was an essential point. He endeavoured to ascertain that the patients could obtain adequate food, however simple. He was equally confident that the unfavourable results which he had seen in certain cases were due to failure of nutrition, and that the favourable results seen in many other cases were due to a supply of proper food. He was not convinced that with simple instruction in the hygienic treatment of phthisis some of the latter patients would not have got well without tuberculin. He also took into account the patient's general physique. The kind of physical signs found in an infective disease producing gradual destructive changes he thought of less importance than the manner in which the organism sustained the infection. A limited severe lesion, and chronic fibrosis, even with a cavity, was to be preferred to a diffuse infiltration and subacute symptoms. The modern delicacy of diagnosis in so universal a disease must result in the detection of many cases which got well. The feature of the modern literature on tuberculosis was the establishment of the theory that nine-tenths of our population recovered from infection by tubercle. The relation of general infection and of the possible immunisation of the population to the gradual reduction in the phthisis death-rate demanded further consideration. How the patient stood the disease while untreated was an important factor in estimating his ability to benefit by tuberculin treatment. One must decide as to each case on its merits; a case with old physical signs of fibrosis, including cavitation, might be quite suitable, especially if the relapsed area was of limited extent and the constitutional symptoms were favourable. With a temperature chart normal or only slightly irregular, of limited daily range, and with nutrition fairly maintained or capable of improvement, and with no prognostic adverse factors present—poor physique, extreme poverty, bad family history, rapid pulse, and severe anæmia —one might safely begin. He had been accustomed to point to a primrose tint in the soft palate, with general anæmia of the buccal mucous membrane, as indicating cases which did not usually do well. Tuberculin treatment could be carried out in a very much larger number of cases where there was entire control over the patient than in the out-patient room. Treatment was begun only after some weeks of observation, except in cases returned to the out-patient room from the wards. From the commencement of the chart the patient was questioned as to the accuracy and care with which his chart was kept; his weight was watched, his sputum examined, and ordinary medical treatment adopted. His usual commencing dose was 0·00001 to 0·00002 of a milligramme of T.R. The first dose was rather experimental, and out-patients were especially cautioned to register their temperature carefully during the first two or three days after the dose, to tell him anything special they might notice about themselves after the injection, and to rest in bed for, at any rate, the first 24 or 36 hours should their temperature go up or should they feel ill after an injection. As a rule with the small dose indicated there were no initial reactions, nor did the patient notice any subjective symptoms which might be regarded as such. At the next visit if there was no reaction of either kind the dose was increased, usually to 0·00003 mg. All being well the dose would again be increased at the next visit to 0·00004 or 0·00005, and in succeeding weeks the dose would go up to 0·00007 and then to 0·0001, and so on until in the twenty-fourth week 0·5 would be reached. Unfortunately, a great deal of unsatisfactory and even dangerous tuberculin administration was now being carried on. Series of doses were prepared by commercial firms and issued to practitioners, who administered them with an inadequate regard to their toxicity. Tuberculin was a toxin, not an antitoxin, a fact that was often ignored in practice, and a strong protest against the present indiscriminate application of tuberculin in many forms of tuberculosis was necessary. A rise of temperature following a dose contra-indicated an increase at the next visit, and if it remained disturbed on the evening before the next visit it was advisable to omit the dose, even though this course in an out-patient involved an undue prolongation of the interval. On the following week, if the temperature was normal, the previous dose might be repeated; and if on the succeeding visit the temperature had remained normal, a progressively increasing dosage might be resumed. But should the repetition of the previous dose again be followed by a reaction it might be necessary to diminish the dose at the next visit, but no dose should be given after a reaction until the temperature had been quite normal under the ordinary conditions of the patient's life for several days. As the cost of T.R. rapidly increased when the doses approached a milligramme, and as the successful increase of dose without reactions up to 0·001 or 0·01 of a milligramme implied a considerable amount of tolerance on the part of the patient, he had in many cases commenced administration of B.E. at this stage. B.E. was much more toxic than T.R., and he did not think the administration of B.E. should be begun in the out-patient room with more than one-fifth of the previous dose of T.R. Thereafter progress in the increase of dosage would follow very much the same lines as those for T.R. If doses above 0·1 mg. of T.R. were tolerated with impunity the interval between doses might sometimes be increased. Usually he preferred to see these patients weekly even when no dose was given. When doses of 0·1 mg. B.E. were attained a fortnight might often be allowed to elapse, and when doses of one or two milligrammes were reached, the patient remaining well, the interval might be further extended to four or six weeks. He was unable to say when treatment should be discontinued. He had not taken any out-patients beyond the dose of two milligrammes of B.E. Where an apparently successful result had been obtained the patient was advised to come up at intervals of one to two months, to repeat the maximum dose which had been reached in his case. The after-care of all cases of pulmonary phthisis presented identically the same problem as that of the prevention of the disease. Economic factors had the largest place. He had as yet but little faith in the permanence of any immunity resulting from treatment of an attack of revealed or open tuberculosis by any method, but tuberculin treatment at least kept the patient under observation and guidance for a long period. The tuberculin used in his out-patient department was prepared by Dr. Hunt, pathologist to the hospital. It was sent in a series of decimal dilutions corresponding to 0·0001, 0·001, 0·01, 0·1, 1 mg. bacillary substance in each 1 c.c. It was diluted with 0·8 per cent. salt solution containing 0·5 per cent. carbolic acid, and heated to 58° C. for half an hour. The injections were usually made in the patient's arm (first washed with a lysol solution) over the outer head of the triceps or about the insertion of the deltoid. After the injection the puncture was dried and occasionally covered. The syringe was of glass, and the needles and syringe were sterilised in the ordinary manner. The doses were measured by decimal divisions of a c.c. in the syringe. A printed card of instructions as to hygiene and nutrition was given to every patient. He saw no reason for ceasing to give these patients concurrently the older remedies, but in regard to cough in ordinary cases of pulmonary phthisis he did not use derivatives of opium, and he found that liquorice and menthol pellets were usually sufficient to stop the cough when troublesome. Patients were also taught not to cough except for the purpose of expectoration. The patient rapidly acquired the power of distinguishing between the possibility and impossibility of removing sputum from his chest. His attitude towards tuberculin treatment in cases of ambulant phthisis in the out-patient room was at present rather one of investigation than of conviction. He would liken the patient's resistance to an elastic thread holding up a weight, which might be compared to the disease

If such a weight were suspended by an elastic thread so that the [illegible] sustained it easily, and [illegible] thread was momentarily [illegible] rebounded, so that for a moment the weight reached a higher position than when at rest. If the elastic cord was strengthened at the height of rebound by an additional thread, and this process were repeated, we should arrive at a position where the cord would be too strong to be [illegible] the weight. Tuberculin treat- [illegible] benefit to those patients who [illegible] f resistance." The paper was illustrated by charts on the epidiascope, and by notes of cases.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Exhibition of Clinical Cases and Pathological Specimens.—Strangulated Inguinal Hernia in Infants.—Meningitis Simulated by Threadworms.

A MEETING of this section was held on April 25th, Mr. A. H. TUBBY, the President, being in the chair.

Dr. J. L. BUNCH showed two cases of Hereditary Syphilis treated by intravenous injections of salvarsan and neo-salvarsan. 1. A child, aged 2 years, who had been shown [illegible] Shortly after birth the [illegible] of hereditary syphilis, [illegible] n an intravenous injec- [illegible] A fortnight after the [illegible] ns had disappeared and the child [illegible] from sym[illegible] about fiv[illegible] syphilis— [illegible] lomata, [illegible] and a skiagram taken of the right wrist. This showed marked disease of the lower end of the diaphysis of the radius, with cancellation and rarefaction of the bone, and periostitis spreading well up the shaft and also involving the ulna. There seemed little doubt that these appearances were due to syphilitic disease. The Wassermann reaction was strongly positive. At 2 P.M. on April 12th, 0·04 grm. neo-salvarsan was injected into the left external jugular. At 10 P.M. on the same day the temperature rose to 103° F., but fell again next day almost to normal. The pulse rose from 120 to 136 at night. The injection of neo-salvarsan was repeated on April 19th, and the symptoms had all greatly diminished, with the exception of the bone changes. The mother still suckled the child at the hospital three times a day.

Dr. J. PORTER PARKINSON showed a case of Tuberculosis of Kidney. The patient, a boy aged 8 years, with a healthy family history, was admitted into a hospital for children two years ago, shortly after an attack of scarlet fever. He was sounded for stone in the bladder, and then the right kidney was explored from behind, but nothing abnormal detected. The urine, which had contained pus, cleared up and he was discharged. [illegible] of the Queen [illegible] side of the a[illegible] He was thin but not emaciated; the right rectus was at times very rigid, but occasionally a hard tumour could be felt in the region of the right kidney, extending two fingers' breadth below the costal margin; it was sometimes tender. The urine was normal in amount, alkaline, contained a variable amount of pus, and about 0·1 per cent. albumin; no blood. Staphylococci and tubercle bacilli were found in it. X ray report: Increased density in renal region; several shadows scattered over right loin, suggesting calcareous masses in an enlarged kidney or calcareous mesenteric gland. Two very dense shadows at lower part of right ureter suggesting calculi or calcareous matter. The left kidney presented nothing abnormal and there were no bladder symptoms. The heart and lungs were normal. The temperature as a rule was normal, but with occasional rises to 102° or 103° F., apparently due to retention of pus in the pelvis. The boy's condition had improved in hospital, and the local tenderness and rigidity had disappeared, so it was easy to palpate the diseased kidney. The question of the advisability of nephrectomy was raised.

Mr. R. H. ANGLIN WHITELOCKE showed a successful case of Cerebral Decompression for Convulsions, Jacksonian in type, in a boy aged 4 years. The patient was admitted at 9.15 P.M. into the Radcliffe Infirmary, Oxford, on Feb. 2nd of this year, with the history that he had been in perfect health until that morning, when he complained of *slight earache. He did not go to school,* but in the early afternoon went for a walk. At 5.30 he fell asleep, and at 7.30 awoke feeling sick, complained of headache and soon vomited. Soon after he vomited his face began to twitch and he began to have convulsions which were confined to the right side of his body. He was at the time quite conscious but spoke indistinctly. As the spasms continued his mother put him into a warm bath and sent for medical assistance. As the fits began to increase in duration and severity the family physician sent him to hospital. The spasms began in the face and rapidly spread to the thumb, wrist, forearm, and arm, and then downwards until the lower limb had been completely involved. The child was *then hardly conscious. Between the seizures there was but* a momentary period of muscular relaxation, and fit followed upon fit with marked regularity. There was no incontinence of urine, and no biting of the tongue. As the condition was steadily becoming worse, and as the fits were entirely localised to the one side, Mr. Whitelocke determined to perform an exploratory operation with the double object either of removing, if possible, some localised focus of cortical irritation, or of diminishing intracranial pressure in the event of there being some more deeply situated cause, such as a neoplasm or collection of fluid. The situation chosen for the opening was the neighbourhood of the Rolandic area. The dura mater bulged owing *to the presence of increased intracranial pressure.* A flap of dura mater was made and drawn aside. The blood-vessels on the surface of the exposed convolutions were somewhat engorged, but there existed no definite lepto-meningitis or gross lesion, and to all intents and purposes the exposed portion of the brain was healthy. A fine exploring cannula was then passed into the cavity of the left ventricle and withdrew a few drops of clear cerebro-spinal fluid. Suspecting the presence of a deeply placed neoplasm or perhaps a tuberculous focus, the bony disc was *not* replaced, whilst the dura mater was only partially sutured. The skin flap was restored and held in position by interrupted silkworm sutures to allow of leakage, for no other means of drainage was considered advisable. The fits ceased from the moment the dura mater was incised. The wound healed perfectly, and the child made a complete and uneventful recovery. He is now in perfect health and spirits. The interesting features for consideration were: (1) the still unascertained cause of illness, no lesion having been found; (2) the one-sided limitations of the spasms, with at first no loss of consciousness, no incontinence of urine, and no biting of the tongue; (3) the complete cessa*tion of the fits so soon* as the *intracranial pressure* was relieved by operation; and (4) the complete and rapid restoration to health after such a sudden and severe nerve-storm.

Mr. WHITELOCKE also showed examples of Enlargement of the Thyroid Gland (Goitre) in a family of five children, four boys and a girl. The respective ages were 5, 7, 9, 10½, and 12 years. The family history was that the [illegible]

[illegible] ment in his throat," so that for the first four weeks of his existence his life was despaired of, and the monthly nurse almost daily informed his mother that he could not live. For some months later he was liable on the least excitement to suffer from "fits of suffocation." This went on till he "cut his eye-teeth." *Attention was first drawn* to the condition of two others by the school inspecting doctor 18 months ago. In another the neck began to enlarge when he was aged 10 years. In the eldest the goitre only became apparent during the last six months, and not before he was approaching the age of 12 years. For the last 18 months Mr. Whitelocke had had the four youngest children continuously under observation and treatment. During this time there had been very little change excepting that the neck in the congenital case had grown a little larger and one of the others had become less. The eldest boy had only lately come under treatment, for his enlargement had been very gradual and somewhat slow, and was of only recent development. As to etiology, nothing very definite could be established beyond the fact that one was evidently a congenital case, and that the two eldest did not show symptoms until after the age of 10 years. The pathological condition was, he ventured to think, one of simple parenchymatous enlargement. Treatment had consisted in an increased weekly pecuniary allowance, the administration of cod-liver oil, iodine preparations, and occasionally iron. The home surroundings had been improved as regards warming, increased light, and general hygiene. This *régime*, steadily enforced for over a year, seemed to have arrested the glandular increase in most cases. The congenital case still remained the largest. Amongst the interesting points were: (1) the existence of the disease in *all* the children of the family, the parents being wholly exempt; (2) that the history pointed clearly and definitely to the fact that one case at least was congenital; (3) that the thyroids became enlarged in all the children whether they lived on bracing and high ground or in the relaxing atmosphere of a low-lying and somewhat damp watershed; (4) the excellent general health and spirits of the children in spite of the poor pecuniary circumstances of their parents.

Dr. H. MORLEY FLETCHER showed a case of Operative Myxœdema—Cachexia Strumipriva. The patient was a girl aged 13 years. In October, 1907, at the age of 7 years, she was admitted to hospital with a small, elastic, freely movable swelling, the size of a marble, situated in midline of the neck at the level of the thyroid cartilage, and apparently attached to the thyroid gland. The swelling was first noticed two years previously, and had been gradually increasing in size. It was removed without difficulty and was found microscopically to consist of thyroid gland tissue. She was discharged, but was readmitted on Nov. 22nd in a state of cachexia strumipriva. Three weeks after the operation she became drowsy, and swelling of the face and hands with puffiness under the eyes was observed. On admission the temperature was subnormal; the urine contained no albumin. She was treated with thyroid extract, and discharged on Dec. 11th in a considerably improved condition. Treatment was continued intermittently until December, 1908, when she came to the children's department. She had taken no medicine for at least six weeks, and presented the typical appearance of myxœdema. She was very lethargic, the skin was dry and rough, the hair over the temples very thin. The urine was natural. Pulse 66 per minute; temperature 98° F. Since then she had been taking thyroid extract continuously, but in spite of this had not progressed satisfactorily. The mental condition was good. At the age of 11 years she was in Standard V., but was put back to Standard IV. Bodily growth was fairly normal. She had never menstruated. She still presented a puffy, pallid appearance, suggestive of myxœdema or chronic nephritis, though the urine had been always found to be normal. At times she became lethargic, though as a rule she was bright and active-minded. The addition of suprarenal extract to the thyroid extract had made no apparent difference.

Dr. E. A. COCKAYNE showed a case of Distal Myopathy. The patient was a boy aged 6 years. There was no history of any similar condition in the family. The mother stated that the patient had always been undersized, and had suffered from birth with incontinence of urine and fæces. At 3 years of age she noticed that he had considerable wasting of the muscles below the knee, and that his buttocks were small. She did not think the wasting had progressed much since it was first noticed. The boy seemed to fall over rather easily. The patient was very small for his age, 37¼ in. in height, but was of normal intelligence. The face, arm, and trunk muscles appeared natural. There was marked symmetrical wasting of the glutei and of the leg muscles below the knees. The thigh muscles were well developed. There was no deformity of the feet, and all movements could be carried out naturally. There was usually some cyanosis of the legs below the knees. No fibrillation had been observed. Sensation to touch, pain, heat, and cold over both arms and legs was natural, and muscular sense was preserved. The knee-jerks were brisk, but neither ankle-jerks nor plantar responses could be obtained. Dr. Cecil Lyster had kindly examined the electrical reactions on two occasions, and reported that there was no alteration either qualitative or quantitative even in the wasted muscles. He stated that a skiagram showed a narrow pelvis, and changes in the epiphyses of the long bones characteristic of rickets. But for the implication of the glutei muscles the distribution of the wasting resembled that seen in an early case of peroneal atrophy of the Charcot-Marie-Tooth type. Soca had described a case of this disease in which the arms were unaffected, and in which the glutei, though normal in appearance, showed well-marked reaction of degeneration. Against this diagnosis was the fact that there was no alteration of sensation and no change in the electrical reactions. Though it did not fall into any definite group of the myopathies he (Dr. Cockayne) had preferred to call it a distal myopathy rather than a myelopathy.

Mr. G. BELLINGHAM SMITH showed a case of Congenital Absence of Abdominal Muscles and other Defects in a baby aged 2 months. The infant was the first child of healthy parents. On examination the abdomen was flattened from before backwards, while there was a distinct bulge in either loin, which was markedly accentuated whenever the infant screamed or strained. Centrally there was a wide flattened median band stretching from the ensiform to the pubis which represented the rectus sheath. If the abdomen was palpated on either side of this central band the coils of intestine could be readily felt, apparently only covered by skin, fascia, and peritoneum. The central sheath itself could be easily picked up between finger and thumb, and suggested to the feel merely a band of fibrous tissue without any intervening muscular tissue. The whole of the abdominal wall failed to react to electrical stimulation. In addition to this apparent lack of muscular tissue in the abdominal wall the infant also presented other congenital defects. The right leg was kept slightly flexed at the hip- and knee-joints, and was said to be moved but very little. There was a moderate degree of genu valgum and talipes calcaneo-valgus present on both sides, the latter condition being more marked on the right side than on the left. Over the præcordial area there was a faint systolic murmur, which was loudest in the region of the impulse. In all other respects the infant appeared to be healthy.

Dr. J. D. ROLLESTON showed a pathological specimen of Diphtheria of the Œsophagus. It was from a boy, aged 6 years, who was admitted to hospital on the fifth day of the disease. Death occurred within one hour of admission. The specimen showed a normal condition of the upper part of the œsophagus. The lower 1¾ inches showed longitudinal areas of congestion. A small piece of membrane was visible at the upper part of his congested area, and there were larger patches of membrane present at the cardiac end. The membrane was also present in the nasopharynx, larynx, and trachea. The stomach was normal. Pure cultures of Klebs-Loeffler bacilli were obtained from the lesions in the throat and œsophagus.

Mr. WHITELOCKE read a short paper on Two Successful Cases of Operation for Strangulated Inguinal Hernia in Female Infants of the ages of 22 and 17 days. 1. In September, 1912, a female infant, 22 days old, was admitted under his care into the Radcliffe Infirmary. The mother stated that the baby was entirely breast fed, and that for the last five days nothing had passed through her bowels. The family attendant, without seeing the child, advised the mother to give it castor oil; this, however, was invariably vomited as soon as swallowed. The infant had vomited for three days, had moaned almost continuously as if in great pain, and had slept hardly at all during the whole of this time. When examined, a firm tense swelling was found in the right inguinal region of the size of a small hen's egg. Both legs were tightly drawn up, and the child was blanched and obviously very ill. A few drops of chloroform were administered, and after the necessary surgical preparations had been made herniotomy was performed. In the hernial sac were found the right ovary and Fallopian tube, together with a small loop of the small intestine. This last was severely strangulated, was purple black, but shiny. The circulation was gradually restored by the application of a warm saline wash, and the colour soon improved. The contents of the sac were returned to the abdomen, the neck of the sac ligatured, whilst the sac itself was excised and the operation rapidly completed Recovery was perfect and quick, and the babe became well grown, fat, had a firm scar, and showed no after effects from the operation 2 On March 6th of this year Mr Whitelocke was called into the country to see the female infant of a lady who had been confined only 17 days previously and who was still in childbed. The family physician informed him that the child had been screaming much since birth, that it had vomited all its food for nearly three days, that its bowels had not moved even with the use of glycerine suppositories for four days, and that it refused the breast In the right groin was a swelling, tense, tender, and tympanitic, the size of a small Tangerine orange He decided to operate at once, realising that he had to deal with a strangulated inguinal hernia in a very young and feeble subject After the necessary preparations had been hurriedly made, and with the help of chloroform, he cut down upon and opened the sac The contents consisted of a swollen and very œdematous cæcum with a long discoloured appendix vermiformis The appendix was exceptionally large [illegible] the presence of a [illegible] upon itself so as [illegible] strangulation This organ was quickly removed, and after considerable difficulty at the internal ring he succeeded in returning the swollen cæcum The internal abdominal ring admitted two fingers The sac was ligatured, and the wound closed and dressed with collodion In a very short time after the little one took the breast, passed urine, and fell asleep The bowels were moved naturally some hours later, and the wound healed without any trouble He had recently heard that the patient was thriving and was in all respects well Several points of interest to the surgeon might be gathered from the experience of these cases, and amongst them might be noted. (1) the early ages at which strangulation occurred, and with apparently no definite cause, (2) the unusual nature of the hernial contents, in the one case an ovary and tube as well as small intestine, in the other an unduly mobile cæcum with large appendix measuring 3½ inches, (3) the successful issue in each case even after the obstruction and symptoms of strangulation had lasted for over three days, (4) the absence of post operative shock after a general anæsthetic and herniotomy, and in the younger infant after appendicectomy in addition Herniotomy in such young infants must be exceptional, and a successful appendicectomy at the age of 17 days was certainly so

Mr WHITELOCKE also read a paper on a case simulating Meningitis in which the symptoms were caused by the escape of threadworms into the peritoneal cavity through a perforated appendix The patient, a girl of 5½ was admitted into the Oxford County Hospital in May, 1910 She was sent in with the diagnosis of tuberculous meningitis, seeing that a year previously an enlarged gland had been removed from the side of her neck When examined it was noticed that she seemed very ill, had a temperature of 102 4° F, and a pulse-rate of 112 There was marked converging strabismus with contraction of both pupils, and some photophobia Her mother stated that for 36 hours or more she had been sick at irregular intervals, was restless, and now and then *screamed out when apparently dozing* She was very constipated, and an enema had produced but a small result She slept badly and often refused food, any attempt at drinking brought on immediate vomiting She had urinary incontinence There was no disease of the ears or air sinuses For the first two days after admission her condition and symptoms remained about the same, but after this she began to pick at the bedclothes, to throw herself about in bed in a restless irregular manner, and to wet herself more frequently At this period Mr Whitelocke noticed for the first time that she kept her right lower limb fully flexed and drawn up to the abdomen whilst she moved the left from time to time, often extending it Palpation of the lower abdomen gave the impression of increased rigidity in the right rectus muscle and caused her to call out when even gentle pressure was brought to bear over the cæcum On percussion there was no distinct dulness anywhere The existence of these physical signs on the right side, together with the increasing sickness, quickening pulse, and general weakness, determined him to explore the region of the appendix The mother readily assented to the operation, and with complete ether narcosis he operated, utilising the McBurney or gridiron incision When the peritoneum was opened a small quantity of semi purulent fluid escaped, emitting a fæcal odour An inflamed process of omentum was found covering in the anterior surface of the cæcum and the appendix completely In peeling the inflamed omentum from the appendix he came upon a colony of about a dozen dead threadworms After the appendix had been cleared and delivered through the wound it was found to possess a pin point perforation ¾ inch from its distal extremity on its mesial aspect Through the minute perforation a living threadworm was to be seen wriggling until it finally extruded itself on to a swab held to receive it In quick succession three or four others of smaller size, and presumably of less mature age, passed in single file through the opening The base of the appendix was crushed and ligatured, and the organ excised according to custom The omentum was then drawn into the wound and carefully examined, as a result three more live worms were removed from its meshes at some distance from the inflamed and previously attached portion In swabbing the pelvic peritoneum with hot saline in search for others, four more live ones were caught and removed The wound was then closed The appendix when cut open was found to be crammed full of oxyurides of all sizes and ages The very small and immature worms greatly predominated The mucous membrane was considerably ulcerated, especially in the immediate neighbourhood of the perforation The opening was so small that a fully grown oxyuris squeezed itself through with decided difficulty After the operation the nervous symptoms and sickness very soon disappeared, the pulse and temperature fell to normal on the following day, and from this time onwards the recovery was rapid and complete The case presented many points of interest, and amongst them may be enumerated 1 *The difficulty in making a* rational diagnosis in the first instance was increased by the existence of an almost positive tuberculous history on the one hand, and by the entire absence of any other known cause on the other 2 The nervous symptoms played such an important rôle, and the pain was so generalised during the first and subsequent examinations, that there was little to direct attention to the local focus in the lower abdomen 3 The only truly localising and diagnostic symptom was the continued flexion of the right lower limb 4 The imitation of a true organic lesion or lesions by the reflex irritation caused by the active animalcules wriggling about on the exquisitely sensitive peritoneal surface. 5. The immediate cessation of the urgent symptoms as soon as the cause had been removed 6 To the surgeon especially the behaviour of the omentum in coming to the rescue in this case as it so often does in others, by limiting and preventing the extension of local mischief In this particular case it appeared not only to have checked the peregrinations of many of the worms, but it seemed to have actually killed them The colony of dead worms was to all appearances encased by the adherent omentum and held in bondage, as it were, in the immediate neighbourhood of their place of exit from the cavity of the appendix 7 The absence of infection as the result of the perforation although there was a free escape of an odoriferous semi purulent discharge on to the peritoneal and wound surfaces A drainage tube was used only during the first 24 hours after the operation The case was unique in the operator's experience, and he had neither heard of a similar case nor had he seen an account of one in surgical literature

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SECTION OF BALNEOLOGY AND CLIMATOLOGY

High Blood Pressure

A MEETING of this section was held on April 17th, Dr F A MOUILLOT (Harrogate) being in the chair

Dr W EDGECOMBE (Harrogate) read a paper on the Significance, Treatment, and Prognosis of High Blood Pressure, of which the following is a summary The measurement of blood pressure by the mercurial manometer is on the whole, reliable and forms a useful clinical guide There is a condition of functional or "neurotic" high blood pressure not due to arteriosclerosis and distinguishable from hyperpiesis, in the majority of cases of functional high pressure direct treatment is unnecessary and may be harmful, functional high blood pressure does not readily lead to arterio-sclerosis; the significance of high blood pressure is less serious than usually supposed. The treatment of early cases of hyperpiesis is imperative and usually satisfactory—spa treatment gives the best results; the treatment of developed arteriosclerosis is unsatisfactory, and should be by general measures and periodic spa treatment rather than by drugs; excess of treatment may be harmful as liable to accelerate cardiac defeat; the prognosis in cases of high blood pressure is less gloomy than usually considered.

Dr. A. MANTLE (Harrogate) then read a paper on the Undesirability in Confirmed Cases of High Blood Pressure of Actively Applying Therapeutic Means to Reduce it, which appears in full in this issue of THE LANCET.

Dr. C. W. BUCKLEY (Buxton) reported a case of high blood pressure in a woman, aged 38, whose systolic pressure had persisted between 240 and 270 for the three years during which she had been under observation. Her most troublesome symptoms were neurotic, chiefly obsessions. Treatment had proved unavailing, even rest in bed for a prolonged period, but thyroid gland seemed to be of some benefit. Cardiac hypertrophy gradually developed, also albuminuria. He referred also to a case with a similar range of pressure in a woman, aged 55, with no symptoms definitely referable to this, but who had rapidly developed all the appearance of an old woman.

Dr. W. BEZLY THORNE endorsed the views impressed by both Dr. Edgecombe and Dr. Mantle, especially as to the danger of attempting to lower blood pressure by means of vaso-dilators. That proceeding, he said, hastened the failure of cardiac compensation, increasing general weakness and dyspnœa, and encouraging œdema. In the course of 15 sphygmometric observations he had never known digitalis to raise blood pressure. On the other hand, he had found the solution of adrenalin, orally administered, to lower maximal readings, apparently by bringing the muscular tissue of the arteries into action and stimulating conductivity. He strongly advised making diastolic in conjunction with maximal records of pressure

Dr. R ACKERLEY (Llandrindod Wells) said he could not regard high blood pressure as the cause of the symptoms associated with it. As regards food, he did not think red meat, or any other form of nitrogenous food, was necessarily dangerous. Few meals, moderate or small in quantity, avoidance of common salt, and free flushings with water apart from meals, were the essential dietetic rules. Starchy foods, imperfectly insalivated, were dangerous, as they fermented in the bowel.

Dr. C. O. HAWTHORNE expressed the opinion that to present sphygmometric readings in terms of blood pressure was hardly justifiable. He agreed that a mere high reading was not a claim for active treatment. He doubted if any drugs had a sustained effect on high readings, and the action of nitrites was only short-lived.

Dr. F. H. HUMPHRIS quite agreed with the prevailing sentiment of both papers which had been so ably argued, but, on the other hand, he entered a protest against the suggestion that the treatment of a high blood pressure by high frequency was disappointing. If it were so, either the choice of the case or the technique was at fault. Too often the current used (d'Arsonval) was limited in amount to 250–300 ma., whereas it should be 1000 ma. and upwards. With this current the reading should be 10 per cent. lower at the end than at the beginning of the treatment.

SECTION OF ELECTRO-THERAPEUTICS.

Use of the X Rays in the Diagnosis, the Causes, and the Terminations of Gastric Ulcer.

A MEETING of this section was held on April 18th, Dr. REGINALD MORTON, the President, being in the chair.

Dr. ALFRED C. JORDAN, in opening a discussion on the Use of the X Rays in the Diagnosis, the Causes, and the Terminations of Gastric Ulcer, said the main interest centred on the chronic ulcers. Acute ulcers gave rise to a very persistent spasmodic constriction at the site of the ulcer, but the converse was not always true; he had often seen a most persistent constriction at a particular point of the stomach—present on several days—and no organic lesion was found on operation. Chronic gastric ulcers occurred typically at two points—at the pylorus and at the middle of the lesser curvature. At the pylorus an ulcer produced a permanent spasm which was equivalent in its effect to pyloric stenosis and led to dilatation of the stomach, the appearances of which, on X ray examination, were well known. In some cases reversed peristalsis was seen, strong waves passing from the pylorus toward the cardiac end of the stomach. Sometimes a series of reversed waves would alternate with a series of waves in the normal direction—or *vice versâ*. If a complete examination of the gastro-intestinal tract were made in cases of gastric ulcer it would be found that intestinal stasis was at the bottom of every case. The manner in which this led to gastric ulcer would be clear from the instances he had to show. The constant occurrence of duodenal distension in intestinal stasis was now well known. The effect upon the stomach was great; the high pressure in the duodenum caused the stomach to work abnormally hard to get a portion of its contents out through the pylorus, which thereupon closed to prevent regurgitation. The pyloric spasm was greater still when the gastric contents were too acid. The spasm thus produced tended to persist, simulating pyloric stenosis, and making it difficult to demonstrate the duodenal distension by the X rays. The difficulty was best overcome by giving the carbonate of bismuth in a large dose about an hour after a meal, and adding a little sodium bicarbonate if necessary. In a normal case the duodenum was narrow and short, and the bismuth passed through it so quickly that no photograph could be obtained with an ordinary apparatus. In stasis cases the behaviour of the duodenum was quite different; it was too wide and too long; it showed strong peristaltic contractions, but there was repeated regurgitation of the bismuth from the fourth and third to the second part of the duodenum, little or no bismuth succeeding in passing through and entering the jejunum. In such cases the bismuth remained in the duodenum many minutes, and it was easy to obtain a photograph by inserting a sensitive plate beneath the fluorescent screen, and leaving it there while observing the behaviour of the duodenum. All his patients were examined in the same way, and the "static" duodenums could be picked out from amongst the normal with the greatest certainty. His results, both normal and abnormal, had been tested over and over again at operations, and had been found to be accurate. As the stomach dilated it was dragged down by its excessive weight, and the weight of the overloaded transverse colon was added to that of the stomach, an ulcer appearing eventually at the point of greatest strain, the pylorus. The effect of dropping of the viscera had been explained by Mr. Arbuthnot Lane; if the liver dropped, carrying the pylorus down with it, the point of greatest strain was shifted to the lesser curvature, and an ulcer then appeared there. It would be understood that the mechanical factor furnished the predisposing cause; the determining cause was microbic, and perhaps in part chemical. Bacillus coli had been found in pure culture in the depressed base of chronic ulcers of the lesser curvature. These formed a most fascinating study. The depressed base of the ulcer occupied some part of the lesser curvature. The raised crater-like margins of the ulcer were well seen, but the most striking feature was the firm, spasmodic contraction of the circular fibres of the stomach over the area of the ulcer, giving rise to a tight hour-glass constriction, a narrow isthmus joining the cardiac with the pyloric portion of the stomach, permanently except under an anæsthetic. This fact was very important to surgeons, for at operations they saw no hour-glass appearance The form of the stomach in a typical case was remarkably constant; the pyloric portion presented a nightcap-like projection upwards, the reason of which became clear if one drew a diagram of the stomach with the chronic ulcer, and represented on the drawing the effect of the abrupt shortening of the circular fibres over the ulcer and nowhere else. The pyloric portion was usually large and low, showing that gastric dilatation had existed before the appearance of the ulcer. This was as would be expected from the explanation already given, for the duodenal distension had previously led to pyloric spasm, ulceration, or actual stenosis As to the fate of these chronic ulcers, some persisted for years often unrecognised (though the X ray examination would obviate that in the future). A few cicatrised completely, leaving a varying amount of hour-glass constriction. Others became cancerous. This had often been denied, but radiography afforded positive proof. He was able to show early cases of cancer with the typical appearances of a chronic ulcer, and more advanced cases showing more modification from the typical form. Lastly, there were the most advanced cases of cancer in which the origin from a chronic ulcer could no longer be demonstrated. Thus they had another instance of the importance of intestinal stasis in the causation of cancer. The series of lantern slides illustrated the typical form of the stomach in gastric ulcer, the transition to cancer, and in all cases the accompanying evidence of marked intestinal stasis—viz., the distended duodenum, the ileal stasis (with an ileal kink in some cases), and the prolonged stasis in the large intestine. Every slide shown had been fully confirmed by operation or by post-mortem examinations. Dr. Jordan then referred to the importance of recognising the signs of intestinal stasis in the earliest stages before permanent injury had befallen organs such as the stomach. He was frequently able to recognise an ileal kink in its very beginning, when it consisted of nothing but a slight local thickening of the mesentery of the last inch or two of the ileum. Even the early stages produced an inevitable reaction on the duodenum, which became distended, and secondarily on the stomach in the manner already explained. Lastly, he would again insist on the importance of a complete examination of the gastro-intestinal tract in all cases of gastric ulcer. The gastric disorder was merely an end result; the radiologist must bring all the resources of his art to the elucidation of its primary cause, and to a large extent he would be successful.

Dr. A. E. **BARCLAY** (Manchester) followed with a paper which was strongly supported by a number of radiograms. His contention was that post-mortem and operative findings were not necessarily a true guide to the condition during life. The X ray method was the only feasible means of studying the stomach *as* it fulfilled its functions. The stomach was a sensitive organ, in which purely *spasmodic contractions* of various types were frequently seen. These spasmodic contractions were of great functional importance, and might so narrow the lumen that actual obstruction resulted. Powerful peristalsis might force an unmasticated bolus through, and cause an abrasion which later on became an ulcer. Ulcers of the stomach were almost invariably associated with spasmodic contractions, and these ulcers probably caused such contractions, though it was likely that, in the first place, the ulcer was indirectly due to the spasm. The chronic gastric ulcer was the result of the vicious circle so formed. Spasmodic contractions might be due to a variety of causes, the removal of which might cure *the patient, but this would not necessarily result* if an ulcer had formed, as a vicious circle had become established. The irritation of the ulcer perpetuated the spasmodic contraction, which made the site of the ulcer a narrow channel through which the food had to be forced. Gastric ulcer was a sequel to functional or organic lesions of other parts of the alimentary tract, and its formation depended chiefly on physical causes.

Mr. A. E. **JOHNSON** said he considered that the most hopeful line in treatment and diagnosis was for radiography to be applied to early cases of dyspepsia, and for medical treatment to be persisted in for some time, and in the eradication of all sources of sepsis before undertaking any operative measures.

Mr. C. **THURSTAN HOLLAND** said it would be interesting to know, with regard to etiology, whether the constipation preceded the stomach symptoms, or *vice versâ*. He was sure that in some cases of gastric ulcer there was no constipation. Moreover, if constipation was so often a cause of the symptoms of gastric ulcer and hour-glass contractions of the stomach, why did simple gastro-enterostomy of the upper segment frequently cure the patient? Dr. Jordan appeared to believe that cancer often occurred on the top of old chronic gastric ulcers; but in the whole series of cases of gastric ulcer at Liverpool malignant disease did not occur in any one of them.

MIDLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Dysmenorrhœa and Sterility.

A MEETING of this society was held at Birmingham on April 8th, Dr. E. **MALINS**, the President, being in the chair.

Dr. C. E. **PURSLOW** showed a large Cystic Tumour of the Kidney which he had removed by abdominal section. The patient, who was 35 years of age and single, presented a cystic swelling of the size of a seven months' gravid uterus; it was lobulated and freely movable and extended across the middle line, though lying more on the right side of the abdomen. It could be felt from the vagina and not from the loin, and, in fact, showed all the characters of an ovarian cyst, and was diagnosed as such. As soon as the abdomen was opened the tumour was seen to be renal in origin; the outer layer of the ascending mesocolon was incised and the tumour removed after tying off its attachments. The peritoneum of the mesocolon was closed with sutures and the abdominal wall closed without drainage. The patient made an uninterrupted recovery. The cyst was found to be formed in about equal proportions by the dilated pelvis and the distended cortex, little or no kidney tissue being left unaffected. Even after operation the most careful questioning failed to elicit anything in the previous history which would have given a clue to the condition.—Dr **WALTER C. SWAYNE** observed that he had had precisely a similar experience to that recorded by Dr. Purslow. In his case it was quite impossible to say before operation from which side of the abdomen the tumour had arisen. Even when the abdomen was opened the organ was only diagnosed as being kidney by reason of the loose peritoneum over it.—Dr. T. **CLARE** recorded an instance of an enormously dilated kidney becoming manifest immediately after labour. In this case the condition had in no way interfered with pregnancy or labour.—Dr. **THOMAS WILSON** remarked that he also had been misled in diagnosis by a renal tumour. Two or three years ago he had diagnosed a case as axial rotation of an ovarian *cyst complicating pregnancy, but operation proved that* it was a suppurating hydronephrosis which had become infected from the ascending colon. Again, more recently he had seen a case which had been diagnosed as an ovarian cyst, but which he thought was an omental cyst. Laparotomy disclosed a cyst in relation with the left kidney. He had removed the kidney, but since had regretted this as he thought that in this case it would have been possible to leave a portion of the organ.—Dr. F. **EDGE** was interested in Dr. Wilson's remarks and wondered how far it was possible to leave a portion of the kidney with a good prospect of retaining its functional activity.—Mr. K. M. **PARDHY** thought that in these difficult cases the diagnosis frequently depended *upon whether a general surgeon or gynæcologist saw the* patient. He had seen more than one instance where a tumour was diagnosed by a general surgeon as a movable or cystic kidney, which proved at operation to be a cyst of ovarian origin.—Dr. **PURSLOW**, in reply, said that although correct diagnosis was, of course, highly desirable, in this particular case it did not affect treatment. Removal of the tumour was the only course open to him. Two diagnostic points occurred to him which had been cited as useful by a general surgeon—viz., if pain was produced upon pushing the tumour down into the pelvis it was likely to be of renal origin; if the tumour projected markedly forwards it was probable that it was connected with the ovary.

Dr. **THOMAS WILSON** showed the Fœtus and Sac from a case of Full-term Intraligamentary Gestation. A point of considerable interest was the fact that the patient had never shown any signs of pregnancy and was unaware of the
[illegible] Menstruation had been quite
œtus had undergone "aseptic
remarked upon the extreme
in the diagnosis of a fœtus
the abdomen had been opened.
served that when the liquor
amnii had drained away at times it was extremely difficult to diagnose a pregnant uterus from a fibromyoma.—Dr. S. **LEWIS GRAHAM** asked for information as to the size of the uterus, since in a case of full-term ectopic gestation *that he had seen under the care of Dr. Copeland Savage the*

uterine sound could be passed for 9½ inches. In this case fœtal movements were quite evident.—Dr. **Wilson**, in reply, said that he did not think it would be possible for anybody to diagnose correctly the condition before operation in this case. There was no menstrual history, no evidence of false labour, and no fœtal movements. The uterus was quite small and certainly not more than 3 inches in length. He had seen two cases of full-term extra-uterine gestation besides the present one. One of these had been under the care of the late Mr. Lawson Tait. The other he saw last year at Manchester under the charge of Dr. W. E. Fothergill. The diagnosis had been correctly made in this case by the practitioner who sent the patient to hospital.

Dr. **William Smith** showed a Uterus the seat of Multiple Fibromyomata, interstitial and subperitoneal, complicating a two and a half months' gestation. He had removed the uterus from a woman, aged 30, whose menstrual periods had always been regular but excessive until January, 1913. The last period terminated on Jan. 28th, and five weeks later she sought advice on account of an abdominal tumour. The swelling rapidly increased in size, and three weeks later it was decided to explore, and if necessary remove, the uterus. This was done on April 3rd, 1913, and the patient made a good recovery. The largest fibroid was situated low down upon the anterior wall and would have obstructed delivery per vias naturales. The patient had had no pressure symptoms and was in good health. The reason why hysterectomy had been performed instead of awaiting events was the extraordinarily rapid development of the mass whilst under observation.—Dr. **Wilson** said that the treatment of such a case as this could well form the subject of discussion before the society. The general rule now adopted in this complication was as far as possible to allow the pregnancy to go to term and to interfere only if accident occurred. He had himself removed a pregnant uterus with fibroids upon two occasions. In one case the tumour had appeared clinically to be a sarcoma, and this was the indication for operation. In the other case retention of urine and severe pain had called for treatment. In such a case as Dr. Smith had shown he thought that it would have been preferable to allow the pregnancy to continue to term and then deliver by Cæsarean hysterectomy if necessary.—Dr. **Swayne** agreed with Dr. Wilson's views, and said that the opinion now largely held was not to interfere in these cases unless dangerous symptoms arose. The class of operation must be decided by the conditions present. Myomectomy had a very definite place in this connexion, and he had successfully enucleated fibroids during the early months of pregnancy without disturbing the gestation.

Dr. **Smith** also showed the Right Uterine Appendages from a case of Tubal Abortion with extensive Pelvic Hæmatocele. The specimen had been removed from a patient, aged 34, married three years, and with no history of previous illness. The last menstrual period began Oct. 20th, 1912. Upon Jan. 4th, 1913, severe uterine hæmorrhage occurred and she felt very ill. She remained in bed for a week, and on Jan. 13th her temperature reached 102° F. Vaginal examination revealed a large swelling in the region of the right appendages and Douglas's pouch. The pyrexia sudsided but anæmia became progressively worse. Until the anæmia increased a diagnosis of pyosalpinx secondary to early uterine abortion had been made. As the swelling increased in size, however, coincidently with a general improvement in the symptoms except the anæmia, ectopic gestation was diagnosed and laparotomy performed. The ostium of the right tube was found communicating with a large hæmatocele and recent blood was issuing from its lumen. The patient made a good recovery.

Dr. **Clare** read a short communication upon the Pathology and Treatment of a case of Dysmenorrhœa and Sterility.—Dr. **Swayne** thought that some cases of dysmenorrhœa and sterility might be due to malposition of the cervix and to acute anteflexion. He had had a small experience in altering the position of the cervix as suggested by Dudley, of Chicago, and had found that the operation relieved the sterility but not the dysmenorrhœa.—Dr. **Purslow** remarked that he had always considered that stenosis of the os internum was one of the causes of dysmenorrhœa, and not contraction of the os externum. In the cases quoted it was the latter that was affected.

Mr. **Pardhy** showed the following specimens: (1) Fibroid closely Simulating Pregnancy. (2) Fibromyomata of the Uterus from a patient who first recognised the tumour at the age of 20. Increase in size had been gradual until the age of 42. The neoplasm then caused inconvenience from its size, but the menstrual history had always been normal. (3) Uterine Fibromyoma associated with two very large Ovarian Cysto-adenomata.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Spleno-Medullary Leukæmia.—Iodoform and Benzoyl Chloride in Pulmonary Tuberculosis.

A MEETING of this section was held on April 4th, Dr. J. F. O'CARROLL, the President, being in the chair.

Dr. **T. G. Moorhead** reported a case of Spleno-Medullary Leukæmia occurring in a boy aged 11, who was treated by X rays. At the beginning of the treatment the white cells numbered 325,000 per c.mm., and the red cells 1,735,000 per c.mm., and the boy's weight was 5½ st. After five weeks' treatment, with exposure of five minutes every third day, the white cells had sunk to 19,600, the red cells had increased to 3,217,000, and the weight was 6 st. 4 lb. At the same time the spleen had diminished considerably in size, and the general health was much improved. The X ray treatment was then unavoidably discontinued, and a month later a severe relapse was observed, the white cells having gone up to 192,000 per c.mm. Shortly afterwards symptoms of miliary tuberculosis supervened, and death occurred. In spite of the apparent immediate beneficial effect of the X ray course the rapid termination of the case suggested that possibly the effects of X rays were not really remedial, and that as a result of their use the resistance to tubercular infection in leukæmic cases was *diminished*. That suggestion was supported by the records of other cases. —Professor **E. J. McWeeney** said his experience closely coincided with Dr. Moorhead's—i.e., the influence of the X rays in causing a diminution of the spleen and an amelioration of the symptoms. A point that struck him was the absence of granular cells which was met with in a great many cases. Ehrlich indicated that a large number of eosinophile cells was thought to be the most marked feature in leukæmia, but the demonstration of such a feature in practice was difficult. With regard to the termination of the case by acute miliary tuberculosis he had a similar experience in one of his cases.—Mr. **M. Hayes**, from his experience in the treatment of several cases, extending over the past six or seven years, by X rays, said that he had found that there generally came a time when X ray exposure had absolutely no effect no matter how long or regularly it was continued.

Dr. **J. B. Coleman** read a paper criticising the Treatment of Pulmonary Tuberculosis by Iodoform and Benzoyl Chloride. In 1911 the iodoform-benzoyl-chloride treatment by intramuscular injections was carried out in Steevens' Hospital, Dublin, on patients suffering from pulmonary tuberculosis. Four out of seven patients so treated died in the hospital, and the treatment was subsequently discontinued. This was the method of treatment which the medical staff of the Royal National Hospital for Consumption for Ireland refused to sanction when it was suggested for trial in the hospital. Amongst the objections to the treatment of pulmonary tuberculosis by iodoform was the fact that the drug was a weak germicide, not fatal to bacteria; if dusted over sterilised nutrient media growth took place from organisms contained in the iodoform itself, and it was not monotropic for the tubercle bacillus, in the sense in which the term was used in connexion with the specific chemo-therapy of Ehrlich. On the other hand, iodoform was toxic, causing such symptoms as malaise, wasting, anorexia, vomiting, fever, tachycardia, insomnia, delirium, headache, prostration, albuminuria, loss of power in the legs, loss of control over the sphincters, and even death by coma (Treves). Iodoform was also harmful to the eye. In many instances retrobulbar neuritis followed its introduction into the system (Critchett, Terson, Priestley Smith, &c.), and after prolonged use atrophy of the optic nerve had followed. According to Terson it caused retinal hæmorrhage. In pulmonary tuberculosis the *intravenous* injection of iodoform was attended with special dangers, as it was liable to be followed by severe attacks of coughing, thereby entailing risk of hæmoptysis or of pneumothorax—a risk which could not be justified in the absence of any proved counter advantages due to the administration of the drug *Mutatis mutandis*, the rules laid down in October, 1912, by Sir Almroth Wright for investigating the effect of ethylhydrocuprein hydrochlorate in pneumonia applied to an inquiry on similar lines in reference to the use of iodoform in pulmonary tuberculosis —Dr Walter G Smith said that when called upon to judge of the success or otherwise of any method of treating disease there were two postulates—(1) an adequate knowledge of the drugs or methods used, and (2) sufficient clinical and scientific evidence of their fitness There might be a third, but doubtful, method—viz, the method of analogy Enough was known about iodoform to justify doubt whether a half grain dose introduced into the body of a man exercised any influence Ample experiments had been made as to its germicidal and bacteriological qualities, and they were ascertained to be extremely feeble A 50 per cent solution of the drug would hardly kill even the staphylococcus It had been proved to be harmless to tubercle, and the only bacillus to which it had been found to be deadly was that of cholera He could not understand how benzoyl chloride—an extremely irritating compound—could be tolerated —Dr W M Crofton said there were *a priori* grounds for the use of iodoform as a

given intramuscularly, and had, therefore, tried iodoform and benzoyl chloride, and if he had not succeeded in some advanced cases he considered that he had not hurried their end, and since some cases had much improved, he held that he was therefore justified in trying the treatment As to the assumption that iodoform would do no good, he referred to experiments on rabbits which had been injected with the bovine bacillus, and when the disease had developed had been completely cured with iodoform in ether given intravenously This, he considered gave good grounds for its use in human cases He asked if it could be shown that fresh air or sanatorium treatment had ever cured such infected rabbits In a previous paper he had stated that in early cases tuberculin treatment would cure in a good many instances, but that more advanced cases were frequently *unsuitable for tuberculin, and it was, therefore, essential to* use some other method, and iodoform was the best intravital germicide he knew He also found out the other microbes which nearly always accompanied the tubercle bacillus, and used autogenous vaccines made from these microbes He considered that no more accurately scientific methods could be adopted Iodoform with the molecule intact he admitted was a weak germicide but in the presence of pus it was split up with the liberation of free iodine As to coughing and pneumothorax, he said that the slower the injection was given the less would be the coughing, and he had never met with pneumothorax nor heard of such an accident Unless Dr Coleman could suggest something that was better than the present sanatorium treatment he would continue to use the iodoform and the other methods —Dr A R Parsons said that it did not take very long after the introduction of a successful treatment for that treatment to become general, and pointed to salvarsan as a notable recent instance Dewar had in 1903 published a series of cases treated with ethereal injections of iodoform, but notwith*standing this inquiries made throughout 16 of the principal* sanatoriums in Great Britain elicited the fact that 13 of these institutions had never used the treatment —Dr Moorhead said that he did not think that any member should be allowed to remain under the impression that the Academy disapproved of the trial of any method of treatment unless that method was dangerous and he did not consider this method dangerous, and he saw no objection to its trial What should be deprecated was bringing a method of treatment before the public before the profession was satisfied that it should be brought forward Since all desired to arrive at the truth of the matter, he suggested that a certain number of cases should be submitted to independent examination and then treated and compared with other cases which had not been treated, and that the results might then be reported to the Academy This, he thought would demonstrate their desire to arrive at a proper conclusion —Dr T C P. Kirkpatrick said that several of the cases in which the treatment was employed were under his care In no case did the treatment seem to do them any harm, nor did the patients object to it —The President considered that Dr Moorhead s suggestion would get over all the difficulties He suggested that the profession should, as far as possible, avoid doing away with a healthy scepticism, since a dogmatic statement would never get them one step further

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Society of Medical Officers of Health —A meeting of this society was held on April 11th Professor E W Hope, the President, being in the chair —A discussion upon the Administration of Sanatorium Benefit was opened by Dr Philip Boobbyer, who dealt with the subject as it affected large towns He said that the heart of any scheme was the dispensary which was at once a head office, a clearing house a diagnosis and treatment centre, and an information and instruction bureau for the entire movement As the clinical section of the curative and preventive work must go hand in hand with public health and housing reform it was highly desirable that the dispensary administration should be closely linked with the health and housing departments This union should be centred in the person and office of the medical officer of health In Nottingham the tuberculosis officer had been appointed deputy medical officer of health The incorporation of mothers' and babies' "Welcomes" in any schemes was important They should be used as branch dispensaries, more especially for the examination, sorting, and treatment of children suffering, or suspected of suffering, from tuberculosis —Dr T Eustace Hill, in considering the question from the point of view of the county councils, assumed that they were the proper bodies to carry out sanatorium schemes and not the Insurance Committees or the local authorities All forms of tuberculosis should be dealt with and Insurance Committees should arrange to make the schemes responsible for dependents, because up to 1915 it would be impossible for an Insurance Committee to expend all its funds on insured persons While it was very desirable that there should be cooperation between the county tuberculosis committee and the Insurance Committee, the county committee should be entirely independent of the county health committee and not a subcommittee of it He approved of the tuberculosis *officer being under the administrative control* of the medical officer of health, but considered that the latter officer should not be the chief tuberculosis officer It was essential that there should be cooperation between district authorities and the county councils The former might be responsible for supplying literature, sputum flasks, handkerchiefs, &c, and for disinfection, and the county councils might loan shelters to the district councils He approved of tuberculosis pavilions being erected on the site of existing isolation hospitals and suggested that these should be provided by the authority owning the hospital, the county council paying the cost as rent spread over 30 years the buildings ultimately belonging to the local authority, who should undertake maintenance, nursing, &c, of patients at a charge of about £65 per annum, excluding the cost of conveyance, for which a motor ambulance would be necessary —Dr J R Kaye agreed that existing buildings such as isolation hospitals should be utilised In the West Riding 145 acres of land had been purchased on which acute and advanced cases would be dealt with and where there would be workmen s houses for *discharged cases Referring* to the qualifications of the dispensary nurse he considered that she must be exceptionally tactful and discreet and of a higher standard than a health visitor or school nurse ——At an adjourned meeting of the society, held on April 25th, when Dr W G Willoughby presided the discussion was resumed and Dr S C Lawrence urged the importance of coöperation between the officers of varying authorities He deprecated the supercilious attitude taken up by some county councils towards district councils, although many of the latter had been dealing with tuberculosis administratively for some time, whereas the county councils were altogether without experience in the matter —Mr F F Fremantle favoured the employment of the school nurse and health visitor as the tuberculosis nurse, for it was impossible to separate the curative function from the preventive Although the local authority dealt with prevention, he did not think it would be practicable for the nurse to be paid partly by the county council and partly by the district council.—Dr. W. F. Corfield, from his experience in Colchester, considered that preventive work must be done by the health visitor and treatment nursing by a special nurse, for the reason that many cases would require constant supervision by the latter.—Dr. Willoughby referred to the sentimental objection which there was in some districts to the school nurse dealing with tuberculous cases.—Dr. J. E. Sandilands considered that the dispensary nurses should be on the staff of the medical officer of health.—Dr. P. Caldwell Smith thought that each sanitary authority should have its own municipal dispensary attached to the public health department. He urged that the London County Council should deal with the question of sanatorium benefit for the uninsured.—Dr. A. H. Bygott feared that tuberculosis work might get into the hands of voluntary charitable institutions the standard of which was not particularly high.—Dr. C. Gerard Taylor and Dr. Frank Robinson pointed out the importance of considering the question of sanatorium benefit administration from the point of view of the general practitioner, who just now was suspicious of innovations.—Dr. J. Howard-Jones referred to the difficulties that had arisen in Wales and Monmouthshire owing to the Insurance Funds having been handed over to the Welsh National Memorial for administration, so that another public health authority without any experience had been created.

Bristol Medico-Chirurgical Society.—A meeting of this society was held on April 9th, Dr. Walter C. Swayne, the President, being in the chair.—Mr. E. H. E. Stack in a demonstration on some varieties of Arm Splints advocated the use of a malleable metal anterior angular splint for the treatment of fractures of the forearm. For all injuries about the elbow-joint he had found the position of acute flexion to give the best results, and demonstrated a simple method for putting up an arm in that position. He advocated the early use of active rather than passive movements, the patient being better able to judge the amount of movement possible without risk of damage.—Mr. Charles Corfield, in a paper entitled "What is an Accident?" said that it was impossible to give a satisfactory definition, but that each case must be decided on its merits. He pointed out that such divers conditions as lightning stroke and anthrax had been adjudged to be accidents within the Workmen's Compensation Act; while, on the other hand, a case of sewer-gas poisoning was not so decided.—Dr. G. Parker suggested that as a medical man was only expected to use ordinary skill and care, so an accident should only be so adjudged if it would similarly have affected a person in an ordinary state of health.—Mr. W. Stuart V. Stock related two cases in which death occurred two or three days after an operation from Heart Failure in patients the subject of fatty heart, although they had shown no bad signs during a prolonged administration of an anæsthetic.—Mr. A. Rendle Short, in a paper on the Nature of Surgical Shock, pointed out that the two great objections to the generally accepted theory of Crile and Mummery, that it was due to vasomotor centre fatigue, were that the peripheral vessels were found to be constricted and not dilated; and also that the centre could be shown experimentally not to be exhausted. He had examined the venous blood of a number of patients the subject of shock, but had been unable to confirm the theory of Yandel Henderson that shock was due to a deficiency of CO_2 in the blood. His own view was that the symptoms were due to a loss of fluid from the blood which apparently passed out into the tissues and was possibly squeezed out by vasomotor reflexes.

Leeds and West Riding Medico-Chirurgical Society.—A clinical meeting of this society was held on April 18th, Dr. J. Dobson, the President, being in the chair.—Dr. G. W. Watson showed a case of Heart-block occurring in a man aged 60. For some weeks the condition had been looked upon as being one of complete heart-block. The pulse varied from 22 to 26 per minute, and was regular in rate and force. There were practically no symptoms beyond dyspnœa on exertion and dizziness. He was treated by iodide of potassium in 7 grain doses with small doses of liquor morphinæ, three times a day. After a few days the pulse-rate jumped to 44 per minute, and afterwards to 72–76 per minute. Whenever the pulse-rate altered in frequency, the patient experienced a momentary sensation of faintness.—Dr. Wardrop Griffith exhibited a series of polygraph records of this case and also tracings of three other cases of heart-block under his care, one of which he showed to the society. Dr. Griffith also showed amongst other cases a woman in whom he had diagnosed Patency of the Ductus Arteriosus, and in whom the condition was complicated by acquired mitral disease.—Dr. A. L. Whitehead showed a case of Congenital "Pit" at the right macular region, and explained its developmental origin.—Dr. R. A. Veale showed a man with an Arthritis of the Elbow-joint of doubtful causation, which had given rise to paralysis of the ulnar nerve. Rapid improvement was taking place under massage and electricity. Dr. Veale also showed a case of Hydroa Æstivalis occurring in a boy aged 4 years. He pointed out the seasonal incidence of the disorder, and mentioned its rare occurrence. He also described the mode of onset, and discussed the question of treatment and prognosis.—Dr. C. W. Vining showed two cases of Parasyphilitic Disease of the Nervous System. In his remarks Dr. Vining emphasised the importance of accurately differentiating between tertiary syphilis and parasyphilis. In the former case treatment was necessary and usually effective; in parasyphilis no treatment, as a rule, was of any avail.—Cases were also shown by Dr. T. Churton, Dr. W. H. Maxwell Telling, Mr. R. Lawford Knaggs, Mr. H. Collinson, Dr. J. B. Hellier, Mr. J. A. Coupland, Mr. G. Constable Hayes, and Mr. Alexander Sharp.

Liverpool Medical Institution.—A meeting of this society was held on April 17th, Mr. F. T. Paul being in the chair.—Specimens were shown, and these were discussed by Mr. Paul, Mr. G. C. E. Simpson, and Mr. Damer Harrisson.—Mr. F. A. G. Jeans read a note on Desmoid Tumours, with a report of a case and the specimen and microscopic section. The term, he said, was applied to tumours consisting of fibrous tissue growing from muscle and fascia, especially in the lower part of the abdominal wall. It was supposed that they might originate from inflammation, hæmorrhage, or from friction. They sometimes appeared in cicatrices. Mr. Lockwood had described them and had recommended that they should be treated as suspect of malignancy. The specimen shown was of about the size of a pigeon's egg, and had occurred in a fat, healthy woman, aged 22, in the region of McBurney's point, and had been noticed for three years, and was slowly growing and becoming painful.—Mr. Paul said the tumour was of a class of spindle-celled tissue which might become malignant, but when removed in time would not recur.—Dr. J. Murray Bligh read a note on the Tuberculin Reaction. He had used Koch's old tuberculin in 60 cases, all children, half of whom had no symptom of tuberculosis, and half with evident tubercular disease. Dr. Bligh's general conclusions were that the tuberculin reaction was of no practical value for diagnostic purposes. He mentioned that in 9 cases of chorea tested, 8 gave a positive reaction to human or bovine tuberculin or to both, and after the chorea was cured they gave negative reactions.—Professor J. M. Beattie said that a positive reaction in cases where there was no evident disease might arise from tubercular disease being present in the tonsils. He had found this in cases where there was no other tuberculosis. The cases of chorea might give a reaction, as sore-throat was a common accompaniment of chorea, and it might be tubercular, and so explain the high percentage of reaction in chorea cases.—Dr. N. Percy Marsh had found after extensive use of von Pirquet's method that it was of little value, but in children under one year a positive reaction had invariably meant a fatal result.—Dr. C. O. Stallybrass, Dr. C. Rundle, and Professor T. R. Glynn also spoke, and Dr. Bligh replied.

Hunterian Society.—The annual meeting of this society was held on April 23rd, Mr. A. H. Tubby, the President, being in the chair. The officers for the next session were elected.—Dr. A. Graham-Stewart (Margate) read a paper founded on his winning essay—On the Diagnosis and Treatment of Early Hyperpiesis and Arterio-sclerosis. He pointed out the necessity of getting these cases early—before they had gone on to very high pressures and before there was much structural change in the vessels or heart. By so doing the progress of the disease might often be held in *statu quo*. He then urged the necessity of measuring the blood pressure in all cases of illness. Apart from the etiological factors as mentioned in text-books on medicine, Dr.

Graham-Stewart brought forth others as being frequently more [illegible] to be a prominent cause, and the use of vaccine therapy for the relief of hypertonus was discussed. The experiments of Manouélian were brought forward as strong proof of the auto-inoculation theory, as propounded by the author of the paper. The earliest symptoms of hyperpiesis and arteriosclerosis were then touched upon—symptoms which call attention to the vascular system—and a method of differentiating between an accentuated aortic second sound and an accentuated pulmonic second sound was described. Dr. Graham-Stewart also showed a Bowles's stethoscope, and pointed out its advantages over the ordinary instrument in general use. Stress was laid upon the danger of employing nitrites indiscriminatingly and in every case, and a list of symptoms was given warranting their employment. The speaker also pointed out that there were two types presenting hyperpiesis—the physiological and the pathological, and that the former group required a raised pressure to get on at all. He then touched on the treatment of "acute" cases—cases with pressures up to 300 mm. of mercury—and stated that the use of digitalis was not contraindicated provided other symptoms called for its employment, as digitalis had no power of raising an already high blood pressure; that [illegible] by the President, Dr. Purves Stewart, Dr. A. O. Jordan, Dr. F. Howard Humphris, Dr. A. S. Currie, and Dr. A. Westerman, after which the society's silver medal and certificate were presented to Dr. Graham-Stewart by the President.

Reviews and Notices of Books.

The Surgery of the Skull and Brain. By L. BATHE RAWLING, F.R.C.S. Eng., Surgeon with Charge of Out-patients, Senior Demonstrator of Practical Surgery, Demonstrator of Operative Surgery, St. Bartholomew's Hospital; late Hunterian Professor, &c. London: Henry Frowde and Hodder and Stoughton. 1912. Pp. 340. Price 25s. net.

THE surgery of the brain is one of the more recent advances of our art, for, except for the treatment of fracture of the skull, it cannot be said to date back more than a few years. Much of what we know is so very new that it has hardly found its way into the text-books as yet, and there is room for a work such as this in which the very latest contributions to this branch of surgery are presented to the profession.

The book commences with an account of the topography of the skull and brain. This is brief, but sufficient for general purposes. There are many points in the special technique of the surgery of the brain, and success in cerebral surgery depends not a little on attention to these points; the chapter on the technique is, therefore, important and contains many hints of value. The author has devised a modification of Cushing's tourniquet which has served him very well; it consists of a metal band which encircles the head and prevents hæmorrhage from the vessels of the scalp which may be troublesome. It appears likely to be useful. The succeeding chapters deal with the various lesions of the skull and brain. In speaking of the treatment of hydrocephalus, the author expresses the following opinions: "While recognising that internal hydrocephalus usually demands surgical interference, it is only *in some few cases that material benefit results*"; and "The operation which promises the best results, combined with the least risk to the patient's life, is that described as ventriculo-subdural drainage." With these opinions we are disposed to agree.

The escape of cerebro-spinal fluid from the ear, nose, or mouth is usually described in text-books on surgery as a common symptom of fracture of the base of the skull, but the author states—and in this he is in accord with others who have specially discussed this matter—that the escape of cerebro-spinal fluid is comparatively rare, for it does not appear to occur in more than about 5 or 6 per cent. of all cases of fractured base. Perhaps the most important section in the book is that dealing with tumours of the brain. Here we find a very clear description of the tumours which occur within the skull, of the symptoms to which they may give rise, and of the treatment which may be adopted. Mr. Rawling finds that his statistics give a lower mortality than was possible a few years ago. He is inclined to think that the average mortality may be put at less than 20 per cent. In this connexion he makes a statement that all young operators on tumours of the brain should lay to heart. He says: "The great secret in operating on a brain tumour lies in knowing when to terminate the attempt at removal of the tumour and when *to rest content with a pure* 'decompression.'" So long as surgeons will persist in burrowing into the brain-substance for a supposed subcortical tumour, so long will the mortality remain high.

The book is well supplied with illustrations, and it gives a very readable account of an important branch of surgery. The high quality of the printing is guaranteed by *saying that the work is one* of the Oxford Medical Publications.

Diseases of Women: A Clinical Guide to their Diagnosis and Treatment. By GEORGE ERNEST HERMAN, M.B., F.R.C.P. Lond., F.R.C.S. Eng., Consulting Obstetric Physician, London Hospital; assisted by R. DRUMMOND MAXWELL, M.D. Lond., F.R.C.S. Eng., Assistant Obstetric Physician to the London Hospital and Physician to Queen Charlotte's Lying-in Hospital. With 8 colour plates and 292 figures in the text. London, New York, Toronto, and Melbourne: Cassell and Co., Limited. 1913. Pp. 899. Price 25s.

IN preparing a new edition of his work on diseases of women Dr. Herman has enlisted the services of Dr. Maxwell to help him, more particularly in the parts relating to operative technique. There is little need for us to praise a book which is now in its fourth edition and which has proved a signal success from its first appearance. Dr. Herman's book is, in our opinion, one of the best of the text-books on diseases of women, and the present edition presents a happy blending of the old and the new teaching of this subject which augurs well for its continued success. The number of pages is not very different, but the format has been altered so as to obtain a larger and a better page, a number of new illustrations have been introduced into the text, and there are eight new colour plates. Some of these are extremely good, especially the two illustrating carcinoma of the portio vaginalis and interstitial hæmorrhage into the ovary, but that purporting to represent an erosion is disappointing.

The whole book has been very thoroughly revised. In the chapter on chronic abdominal pain we notice a new section on bacillus coli infections of the urinary tract. In the treatment of prolapse of the uterus Tod Gilliam's operation and that for making a sling of the round ligaments are described. No doubt in the next edition Mayo's valuable modification of the former operation will find a place. We notice that the terms ventro-fixation and ventral fixation are both used, but that there is no allusion to ventral fixation in the index. It would be as well to adopt one term and one only, and ventro-fixation seems the better of the two. In the treatment of cases of adherent retroflexion there is a description with a good illustration of the operation of salpingostomy. The description of the operation for a ruptured tube has been revised and improved, as has also the description of vaginal hysterectomy. We must confess we are disappointed with the account of Wertheim's operation. The authors seem to us to lay unnecessary stress upon the closure of the vagina below the growth so as to avoid the danger of sepsis and infection by the cancer cells, to the neglect of the necessity for removing as large an amount as possible of the parametrium. From reading this description the novice would certainly not find the ureters easily, and inasmuch as there is no mention of Wertheim's special forceps for the parametrium, nor any account of the best method of clamping and dealing with the parametrium, the operator, depending on the manual, might get into difficulties. The uterine artery is recommended to be tied as far out as possible, but no mention is made of the necessity for preserving the superior vesical artery, or for clamping or tying the uterine veins, which so often lie beneath the ureter, as well as over it. Very probably the account is not intended to be more than an outline, but even in that case the very casual reference to "the ligaturing off any masses of paravaginal cellular tissue" is misleading, inasmuch as, in our opinion, this is one of the most important of all the steps of the operation.

In the section on the sterilisation of women the authors say that it is proper advice in the case of women who are the subjects of nervous diseases which would be aggravated by pregnancy or child-bearing, or which would be transmitted to their offspring, to recommend sterilisation; but what these diseases are must be decided after consultation with a specialist. In a general text-book for students it is, we think, advisable to give, at any rate, some indication as to what these diseases are; it would be difficult to name many diseases in which such advice would be proper. The section on kraurosis vulvæ and leukoplakia has been revised in view of the work of Comyns Berkeley and Bonney on these subjects. Dr. E. Reginald Morton has contributed sections on the use of the X rays and radium in cervical cancer and in pruritus vulvæ, and the use of a pencil of frozen carbonic acid in urethral caruncle. We are surprised to find no mention of the treatment of uterine fibroids by radiotherapy.

The book as a whole is very good and a credit to its authors.

Manual of Medicine. By A. S. WOODWARK, M D. Lond., M.R.C.P. Lond., Junior Curator of St. Bartholomew's Hospital Museum; Physician to the Royal Waterloo Hospital, &c. London, Edinburgh, and Glasgow: Henry Frowde and Hodder and Stoughton. 1912. Pp. 409. Price 10*s*. 6*d*.

THE author explains in his preface that "in contributing this little book to the enormous mass of medical literature at present in existence" he hopes to fulfil a twofold purpose—that of supplying a vade-mecum for the student clerking in the wards or out-patient department and that of a convenient reference-book for the busy practitioner. After a perusal of the volume we believe that to a member of the profession engaged in general practice this manual would be of considerable use, enabling him in a short time to refresh his memory as to the salient features of any particular disease. If a student would utilise the book as an addendum to a larger and more detailed work, then he also might find it of considerable value as giving a clear summary of the chief points in regard to the etiology, pathology, symptomatology, and treatment of any malady, but he would have to resist the temptation of letting it replace a more comprehensive text-book.

Dr. Woodwark has succeeded in condensing a large amount of information into a comparatively small space. The manner in which the subject matter is arranged renders any reference easy, and for the most part both the theoretical and practical considerations are fully up to the more modern views.

Brain and Spinal Cord. A Manual for the Study of the Morphology and Fibre-tracts of the Central Nervous System. By Dr. Med. EMIL VILLIGER, Privat-dozent in Neurology and Neuropathology in the University of Basel. Translated by GEORGE A. PIERSOL, M.D., Sc.D., Professor of Anatomy in the University of Pennsylvania. From the third German edition. With 232 illustrations, many of which are coloured. London and Philadelphia: J. B. Lippincott Company. 1912. Pp. 289. Price 16*s*. net.

Professor Piersol's translation of this well-known German work is welcome, for there is a clearness in the manner of presentation in this treatise which is not by any means universally present in descriptions of the brain and spinal cord. The book should be a real help to the student, for it bridges over in a satisfactory manner that gap which all too often exists in the student's knowledge between the arrangements of the tracts of the central nervous system, as demonstrated by the physiologist, and the gross structure of the brain and cord as displayed by the anatomist. For this reason alone it is a valuable work for the student, but it also possesses the merit of giving a short but clear account of the morphology and development of the central nervous system.

The illustrations are excellent, being that satisfactory blend of a diagrammatic clearness and an actual accuracy which makes the ideal of anatomical representation. Colour has been employed throughout with judgment and restraint, clearness of definition rather than attractive adornment having been the obvious guiding principle. A selected bibliography of the most important contributions to the literature has been added, and for the specialist references to more extended bibliographies are appended.

Handbuch der Nervenkrankheiten im Kindesalter. Von Prof. L. BRUNS, Oberarzt d. Hannoverschen Kinderheilanstalt; Prof. A. CRAMER, geh. Med.-Rat, Direktor d. kgl. Univ. Klinik f. psych. u. Nervenkrankh. in Göttingen; Prof. TH. ZIEHEN, geh. Med.-Rat, fr. Direktor d. psych. u. Nervenklinik d. kgl. Charité in Berlin. Mit 189 Abbildungen im Text und 3 Tafeln. Berlin: S. Karger. 1912. Pp. 980. Price 30 marks.

IN this imposing volume of almost a thousand pages the attempt has been made to produce a complete and authoritative text-book of nervous diseases as they affect children, and the names of the authors are a guarantee of the thoroughness and accuracy of the book as a whole. Some of the subjects are handled at considerable length: 40 pages are devoted to hysteria in childhood and 90 to epilepsy. Such diseases as are confined to or appear in early life—e.g., Werdnig-Hoffmann paralysis, Little's disease, infantile cerebral hemiplegia, to mention only a few—are excellently done. Rare diseases receive due attention, while common conditions, such as chorea, meningitis, and so on, are described in an exhaustive manner.

In a work of this size it is, perhaps, inevitable that there should be a certain amount of inequality in the contributions. The chapter on intracranial tumours is in the main satisfactory, yet in the diagnosis and symptomatology of tumours of the temporal lobe, corpus callosum, third ventricle—to refer to these only—we miss various points that might well have been included. In the chapter on chorea there is no reference to the occurrence of an extensor response, and no description, as far as we can see, of the choreic hand. In the article on poliomyelitis the most recent discoveries, in a text-book of the pretensions of the one under review, might have been referred to a little more generously.

There are a good index and valuable bibliographical tables throughout which will be of great service to the neurologist While the majority of the pathological illustrations are good, this cannot be said for all the clinical ones, some are woodcuts which have done duty for a generation now, and others are inadequate for the purpose intended The volume, however, contains an immense amount of information, methodically arranged and well written, and we are sure it will be greatly appreciated by all interested in the study of diseases in children

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Leitfaden der Praktischen Kriegs Chirurgie Von Dr WALTER VON OETTINGEN, Chirurg in Berlin-Wilmersdorf, s z Chefarzt des Livländischen Feldlazaretts vom roten Kreuz im Russisch Japanischen Kriege Dresden und Leipzig Theodor Steinkopf 1912 Pp 377 Price, bound, 9 50 marks

THE surgical art in war has an importance that can hardly be overrated, for modern methods of treatment make it possible to do much more for the wounded than could be done even 40 years ago It is now recognised that the coated bullet does as a rule far less harm to the soft tissues than its predecessors did, which were larger and moved with a less velocity, and it has been found possible in many cases within a few weeks to replace a wounded man in the firing line if he has been treated in accordance with modern methods Therefore, it is clearly of the greatest importance, even from a military point of view, that the surgery of war should be cultivated to its full extent Many manuals have appeared on this subject, and this is one of the most recent, and also so far as it goes one of the best that have yet appeared The author has had experience in the war between Russia and Japan, and the book is evidently largely based on the practical knowledge thus obtained

The book begins with an account of the modern rifle and of the bullets generally employed, then the forms of wounds produced by these projectiles are described An account is also given of the wounds resulting from the explosion of mines and from other injuries which may occur in war, even though not the result of firearms The second section treats of the mode of healing of wounds, the importance of asepsis, and the modes of disinfection that can be employed on the field of battle The most convenient forms of dressing for field use are described The general treatment of wounds on the field, and of shock and hæmorrhage, general and local anæsthesia, the nursing of patients in war, their food, and their transport to base hospitals are considered in order The second half of the book is devoted to a description of injuries of special parts of the body and the suitable treatment for them

The book contains all that can reasonably be expected in the small space occupied, and it should prove very useful to all those connected with the treatment of the wounded in war, not only to the junior medical officers, but also to nurses and aids

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The Protein Element in Nutrition By Major DAVID MCCAY, M B R U I, M R C P Lond, I M S, Professor of Physiology, Medical College, Calcutta Illustrated London. Edward Arnold 1912 Pp 216 Price 10*s* 6*d* net

THE aim of the general editors of the International Medical Monographs Series is to set men of ripe experience and proved merit to sift the enormous output of modern research, each in his own department, and to give us the result in a balanced, concise, and accurate form This aim has certainly been attained in handing over to Professor McCay a subject of such importance as the estimate of the proper amount of protein necessary for nutrition The author has had exceptional opportunities of studying on a large scale the physique and food of many of the natives of India, and of investigating on a large scale the chemical intake and output of prisoners in Indian gaols His researches have extended over many years, and this volume is partly an aggregation of important papers already published The tone of argument exhibited is not at all aggressive, and the language is far more moderate than that often employed in discussions on dietetics This very moderation serves to give force to a vast array of details skilfully marshalled, and to destructive criticism, which is occasionally employed

The main argument is that the supposition that the natives of India are entirely, or even largely, vegetarians is untrue, and that when they are so it is only under the pressure of poverty A huge mass of careful matter, dealing with the staple foods of the Tropics, is given in support of this view The chief areas of low protein dietaries in India are found in Madras and Lower Bengal, and both areas show a lower average of physical development than is found elsewhere. Professor McCay refutes carefully all other alleged causes except that of food In the maintenance of his thesis the whole question of protein dietaries, the necessity and importance of protein, its metabolism, and the effects of low protein dietary in the Tropics, are very fully considered The book, therefore, contains an enormous mass of interesting detail to students of the principal debated questions of diet, and the information is thoroughly well arranged Professor McCay again takes up the cudgels against Professor Chittenden, though the last word has probably not been said on either side The problem of the relation of the amount of nitrogen taken in to that excreted is not so simple a one as has been often asserted The quality of the resultant tissues may be as important as the quantity estimated by mere weight That an animal may be fed so as to increase its weight and not show tissues of valuable quality has been long recognised, and in the volume before us the same problem as applied to man is discussed carefully Some highly interesting observations on the renal pathology of the grain fed Bengali are quoted in the chapter dealing with the physique and expectation of life of those races and Eurasians

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The Bacteriology of Surface Waters in the Tropics By WM WESLEY CLEMESHA, M B Vict, D P H Calcutta Thacker, Spink and Co London E and F N Spon 1912 Pp 161 Price Rs 7 8

BACTERIOLOGISTS, and more particularly those who are engaged upon the guarding of our water supplies from pollution, will find this admirable essay well worth study, inasmuch as it sets forth the reasons why a standard adopted in England does not apply to the waters of tropical countries, where the germicidal properties of sunlight are a very potent factor In this country, for example, when organisms are found in a water that give certain fermentative reactions they would be considered more objectionable than others which did not The deduction is probably correct, but, as the author shows, this attitude would condemn nearly every drop of drinking water in India with probably no justification in the greater number of instances In the classification of organisms a much more satisfactory method from the point of view of the water bacteriologist is to divide them according to their ability to live in water exposed to sunlight. Natural processes of self purification make it incumbent to study the kind of organisms, rather than their number, in order to arrive at a satisfactory judgment A concrete case is quoted Two separate organisms of the "coli group" are present in water, one of which may be found in nature to multiply in water or to remain at the bottom of lakes for long periods But the second organism may be clearly shown to disappear in a few days The significance of these two organisms would clearly be different when looked at from the point of view of their presence in any sample of water This illustration affords an example of the value of a careful study of the natural phenomena of self-purification which discloses important facts relative to the life-history of individual species of fæcal organisms.

The classifying of organisms, on the other hand, into artificial groups according to their action on certain sugars conveys nothing of practical value. Classification, however, for the purpose of description is necessary, but what the author insists upon is that it is not logical to conclude that because all organisms ferment the same sugar it follows that they possess similar characteristics in other respects or behave similarly when passed into water and subjected to natural forces. He shows, in fact, that this is not the case, and the experimental evidence deduced is based upon such extremely careful work as to leave very little doubt that he has established his point. Of course, it may be asked why English methods have given such satisfactory results as to lead to their general adoption. To which question the author replies that in England practically any trace of pollution is dangerous. There is not time for any very elaborate self-purification to go on in most natural sources, and it is probable that a more detailed examination on the lines suggested by the author and his colleagues of the process of storage would show that the results obtained in England resemble those in India. It is, however, obvious that in questions of determining whether water is fit to drink or not the standard should err rather on the side of severity than on that of leniency.

The observations recorded in this book add very valuable material to our knowledge of the flora of water-supplies, and particularly in regard to their life-history and pathological significance.

Text-book of Ophthalmology in the Form of Clinical Lectures. By Dr. PAUL ROEMER, Professor of Ophthalmology, Greifswald. Translated by Dr. MATTHIAS LANCKTON FOSTER. Vols. II. and III. London: Rebman, Limited. 1912–13. Pp. 277–571, 573–896. Price 10*s*. 6*d*. each net.

Dr. Foster has brought his task of translating Professor Roemer's text-book of ophthalmology to a successful conclusion, and the work is now available for English-speaking students in a thoroughly good translation. We have already reviewed the original work and the first volume of the translation[1] and pointed out the type of student for whom they are likely to be specially useful. The volumes are admirably printed and illustrated.

Du Strabisme. By Dr. PIERRE LAGLEYZE, Professor of Opthalmology in the University of Buenos Aires. Paris: Jules Rousset. 1913. Pp. 409. Price 15 francs.

THIS work consists chiefly of an account of all the cases of squint which have been treated by the author, his methods of treatment, and a discussion of the pathogenesis of the complaint on familiar lines. Little attention is directed to orthoptic treatment, and the operative measures advocated are those generally in use.

LIBRARY TABLE.

Clinical Methods for Indian Students: A Guide for Students and General Practitioners in India in Diagnostic and Therapeutic Methods. By G. T. BIRDWOOD, M.D. Cantab., Major I.M.S., late Principal, Medical School, Agra; and Foreword by J. R. ROBERTS, F.R.C.S. Eng., C.I.E. Calcutta: Thacker, Spink, and Co. 1913. Pp. 171. Price Rs.2.8.—Major Birdwood's "Clinical Methods," we believe, will find a sphere of utility far beyond the confines of India. He has collected into one convenient handbook the clinical tests and main diagnostic laboratory processes which, for the most part, have to be sought in not always readily accessible books or scientific periodicals. Many of them, of course, are matters of general knowledge; but even these, the practitioner once well versed in the details, when he has occasion to revert to them only very infrequently, will probably have forgotten, and may be thankful for a brief categorical description of them; while many are of less common knowledge, though well established. The more the practitioner with a sound laboratory education can learn to rely on himself for those clinical tests that are not too complicated and do not need too elaborate an armamentarium for their performance, the better equipped he will become as a diagnostician, for clinical examination and laboratory examination are complementary the one to the other, and sound judgment comes not from regarding either separately, but from a judicious correction of each by the other. Among the subjects dealt with—the processes number 68 in all—are examinations of the blood, including cultivations and processes necessary in malaria, kala azar, tropical ulcer, typhoid and fevers of uncertain origin, method of examination for various pathogenic micro-organisms, examination of rats for plague, examination and identification of mosquitoes, examination of lochia, urine and fæces for germs; protozoa, and eggs of worms, and of hydatid fluid, lumbar and pleural puncture, estimation of the opsonic index and preparation and dosage of vaccines, the use of tuberculin and leprolin and of antitoxic sera, the taking of swabs, anaphylaxis, snake-bite and its treatment, salvarsan and syphilis, how to embalm a dead body, and notes on the use of the microscope, stains, and general laboratory processes. Each subject is dealt with in concise paragraphs, each step of any procedure being numbered in order of performance. The book is interleaved for notes. While some of the difficult processes—e.g., the preparation of vaccines and opsonic index calculations, Wassermann's test, and so forth—are best left, whenever possible, to the trained pathologist, a general knowledge of the method pursued will yet be an advantage to the practitioner. We would suggest that the plan adopted in section No. 5, on the counting of red blood corpuscles—viz., the enumeration of all the requisites for the operation—might with advantage be adopted much more generally through the book, but that it should precede, instead of following, the article to which it refers More careful proof-reading would also be an advantage in future editions. It is true most of the errors we have noted are in the spelling of proper names and are not of practical importance; but their frequency leads to an uncomfortable feeling of insecurity, lest errors should be present in more important matters. We have not noted any such, however.

The Energy System of Matter. A Deduction from Terrestrial Energy Phenomena. By JAMES WEIR. With 12 diagrams. London: Longmans, Green and Co. 1912. Pp. 200. Price 6*s*. net.—The author had better speak for himself, and this he does, after an intimate study of natural phenomena, in the following words: "I have reached the conclusion that every physical phenomenon is due to the operation of energy transformations or energy transmissions embodied in material, and takes place under the action or influence of incepting energy fields." It appears that the main principles on which the present work is founded were broadly outlined in the same author's "Terrestrial Energy" in 1883, and also in a paper in 1892. Obviously he is distressed as to the present position of the problem that has attracted his attention. "Day by day it becomes more evident that not one of the many existing theories is adequate to the explanation of the known phenomena." The field of energetics is specially under his ban. Speculative methods are still rampant, he states, finding that they have become the fashion, or rather the fetich, of modern science. "It would seem that no experimental result can be of any value until it is deductively accommodated to some preconceived hypothesis, until it is embodied and under the sway of what is practically scientific dogma." Fortunately, the author does not propose "to add another thread to the already tangled skein of scientific theory." We express our concurrence. Those of our readers who are interested in the "principles of inception" may perhaps read the author's concluding sentence: "The finger of Nature ever points to closed energy circuits, to the earth as a complete and conservative system in which energy, mutable to the highest degree with respect to its plurality of form, attains to the perfection of permanence in its essential character and amount."

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[1] THE LANCET, Oct. 26th, 1912, p. 1156.

Studio su la Morte Apparente e la Morte Reale. By Dr. A. CREAZZO. Rome: Loescher and Co. 1913. Pp 184. Price 3 lire.—From time to time both in the English and foreign press the public are treated to sensational accounts of persons supposed to have been buried alive. The medical profession as a whole is incredulous of the danger of apparent death, but Dr. Creazzo considers it none the less our duty to investigate the subject thoroughly and find some certain method of proving that death has really taken place in order to demonstrate after years of trial that the danger is purely imaginary. If this can be done a great service will have been rendered to humanity, and Dr. Creazzo has contributed *in not a small measure to it. In this little* work the author discusses such questions as latent biological activity, the autonomy of the various organs and functions, latent life in the higher organisms, the stages of death, the persistence of life in apparent death, and the phenomena of residual vitality. He reports some authentic and interesting cases of apparent death, and reviews the classical and secondary signs by which death is usually affirmed; among these, however, we find no mention of alterations produced in the rotundity of the pupil under digital pressure. He considers it proved that since the manifestation of life is to be found in intracellular bio-chemical processes, the whole individual does not die at a given moment, but the organism is gradually extinguished. Hence everyone who dies passes through a state of latent life, subdivided into apparent, relative, and intermediate death. The author believes in residual vitality and that there arrives a moment in which the individual ceases to have that small modicum of life which, theoretically at least, would be sufficient to reanimate it. Dr Creazzo endorses the opinion expressed by Brouardel, that we have no sign or combination of signs which enable us in all cases to affirm with scientific certainty that death has taken place. His remedy consists in a more extensive and general application of the methods of Icard, especially the intravenous injection of fluorescin, which tinges the tissues if the circulation is still present, and the insertion into the nostrils of filter paper saturated with neutral acetate of lead, which blackens from the products of putrefaction. Other methods are described, but the two mentioned have the merit of simplicity and universal application in removing from the public mind the spectre of premature burial.

SUNSHINE HOME, HURSTPIERPOINT.—H.R.H. Princess Alexander of Teck on April 23rd visited Hurstpierpoint, a township at the foot of the Southdowns in Sussex, and there laid the foundation-stone of the chapel of the Sunshine Home. This institution began ten years ago as a small convalescent hospital with six beds. It was enlarged in 1905 and again in 1908. The Home is essentially a home of recovery for surgical cases (women and girls only) which are passed on from hospitals.

THE FINAL REPORT OF THE ROYAL COMMISSION ON UNIVERSITY EDUCATION IN LONDON.

II.[1]

PART III. of the report deals with the application of the principles of government for the University whose enunciation closed Part II. The financial and educational control of any constituent colleges and university departments is considered, as well as the constitution and general powers of the faculties and their relation to these bodies. The various faculties are then discussed: a table in each case shows the present teachers in the faculty and the institutions in London at present suitable for inclusion in the University as constituent colleges in the faculty. Constituent colleges may be established by the University, but any existing institution engaged in doing University work in one or more faculties, which is strong enough to comply with conditions of incorporation, and willing to transfer the financial and education control in respect of such faculties to the University, may become a constituent college to the indicated extent. The salaries of the professors and readers in the various faculties are set down at £600 to £1000 and £300 respectively.

The following is a summary of the recommendations in respect of the Faculty of Arts:—

[illegible] teachers [illegible] management.

Bedford College should become a constituent college in the Faculty of Arts, subject to its compliance with the conditions as to university [illegible] the reconstitution of [illegible] establishing the new [illegible] with the University [illegible] for maintenance is [illegible]

The recommendations in respect of the Faculty of Science are no less succinct. The Faculty, it is suggested, should have an exactly similar constitution to that of the Faculty of Arts, but the payment of the professors is indicated upon the higher scale. The head of every department in a constituent college or university department in the Faculty shall be either the professor or the reader in the subject. The following are the other main recommendations:—

The Imperial College of Science and Technology should become a constituent college of the University in the Faculty of Science, provided the University is given the necessary educational and financial control [illegible]

King's College for Women should as soon as possible be constituted the University Department of Home Science and Economics or of Household and Social Science, and should, if possible, be placed in the

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[1] No. I. was published in THE LANCET of April 26th, 1913, p. 1121.

Bloomsbury district in close proximity to the central university buildings and to the suggested new site for King's College.

The Royal Veterinary College should become, if possible, the University Department of Veterinary Science, subject to its compliance with the conditions as to university management we lay down, and to its abandoning the teaching of chemistry, biology, and physiology (including histology). Additional income is needed as soon as possible in order to make the professorships of medicine and surgery full-time appointments.

The Brown Animal Sanatory Institution should if possible be moved into close proximity to the Royal Veterinary College, and should in that case be placed under the management of the same committee as the Royal Veterinary College.

The Goldsmiths' College should continue to be a day training college for elementary school teachers, giving a two years' course of university training for the certificate of the Board of Education, but not preparing its students for degrees. Subject to the approval of the London County Council it might also continue to maintain the present school of art. It should abandon its present lectures and classes in science and in technological subjects.

The School of Pharmacy and the Finsbury Technical College should not be formally connected with the University.

With regard to Bedford College, the East London College, and the Birkbeck College, the recommendations are exactly the same as they were in the case of the Faculty of Arts.

The Faculty of Technology is considered at some length, very definite reasons being given for the views of the Commissioners that the foundation of a separate University of Technology, with the existing Imperial College of Science and Technology as its nucleus, would be a mistaken proceeding. The Commissioners remind us that the newly constituted University will differ from the existing one in many main features, and hope in their recommendations to satisfy both those who claim independence for the College of Science and those who do not wish to see the College separated from the University.

The main recommendations in respect of the Faculty of Technology are as follows:—

The Faculty should consist of the vice-chancellor, the university professors, the honorary and associate professors, the university readers and the honorary and associate readers in charge of departments dealing with subjects of study in respect of which no university professorship is in existence, and of such other teachers and officers appointed by the University as the Faculty may coöpt. The Faculty should also include persons with special scientific knowledge of the industries and professions with which the Faculty has relations. The numbers and mode of selection would be decided by the Senate after report by the committee referred to in the next recommendation.

The present Faculty of Engineering should be merged in a Faculty of wider scope, which should include all the instruction given by the University in Science as applied to industry and should be called the Faculty of Technology.

There should be a statutory committee of the Senate, entitled the Committee for Technology, to be entrusted, subject to the supreme control of the Senate, with the conduct and management of all the departments of the Faculty within the several constituent colleges of the University.

The Committee for Technology to be appointed annually would consist of the vice-chancellor *ex officio;* the rector of the Imperial College of Science and Technology *ex officio;* other persons, a bare majority of whom would be appointed by the Senate, including at least two representatives of the delegacies of University and King's College respectively; the remainder being appointed by the governing body of the Imperial College.

The Committee for Technology should always consist as to at least three-fourths of its members of men of affairs and persons with special scientific knowledge of the professions and industries concerned. A committee of 15, including the two *ex officio* members, would be consistent with this constitution and suitable in size for the purposes in view.

Subject to the approval of an annual budget and report by the Senate. the Committee for Technology should have control of all the funds and buildings available for the Imperial College and of all the funds and buildings at present available for the teaching of engineering in University College and King's College, together with any additional funds and buildings that may be assigned to it by the Senate.

The departments of engineering at University and King's Colleges, or at other institutions hereafter admitted as constituent colleges in the Faculty of Technology, should not be modified, abandoned, or transferred without giving the delegacies of those colleges the opportunity of being heard by the Senate of the University, whose decision in the matter will be final.

The Committee for Technology should submit its annual budget and report to the governing body of the Imperial College, and the Senate should consult the governing body before approving or rejecting them.

The existing arrangements for the management of the several constituent colleges of [illegible] gy should continue until th[illegible] the Committee for Techno[illegible] university professorships and readerships should be made by the Senate on the [illegible] has been advised by boards of advisers [illegible] that at present followed by the Senate [illegible] essorships.

The Imperial College of Science and Technology should become a constituent college of the University in the Faculty of Technology subject to the provisions laid down.

University College and King's College should become constituent colleges in the Faculty of Technology subject to the same provisions. But in order to fit them to fill this position adequately additional income is required for the establishment of university professorships and readerships.

The arrangements for headship of departments and salaries are similar to those in the previous two faculties, and the East London College is recommended for a constituent college as soon as it can raise the necessary funds, provided it will comply with the necessary conditions of university management.

The recommendations with regard to the Faculty of Economics are as follows:—

1. The faculty should consist of the vice-chancellor, the university professors, the honorary and associate professors, the university readers, and the honorary and associate readers in charge of departments dealing with subjects of study in respect of which no university professorship is in existence, and of such other teachers and officers appointed by the University as the faculty may coöpt. The faculty may also include persons with special knowledge of the professions and callings with which the faculty has relations. The numbers and mode of selection would be decided by the Senate.

2. The head of every department in a constituent college or university department in the Faculty of Economics should be either a university professor or a university reader with the salary, conditions of appointment, and tenure which we have laid down as proper to university teachers.

3. The School of Economics should become a constituent college in the Faculty of Economics, subject to its compliance with the conditions as to university management we lay down. But immediate additional funds are needed for salaries and for library maintenance.

4. The main teaching of the University in the Faculty of Economics should be centralised at the School of Economics.

5. The University Department of Ethnology should be placed for the present in the School of Economics.

6. The Foxwell Library of Economic Literature should be housed in the School of Economics.

The Faculty of Medicine comes next in order in the report. It is considered at greater length than the other faculties, and for the moment it will be more convenient to leave it aside and pass to the Faculty of Laws. With regard to this, it is pointed out that there ought to be a Faculty of Laws, but that at present there is no body of teachers in London to whom the title, status, and salary of university professors or readers in law have been assigned, or who have been recommended by a board of advisors for those titles. Absence of endowment is chiefly responsible for this, but the Commissioners consider that it would not be in the interests of the University or of the present teachers of law to confer the powers and privileges proper to a university faculty upon the present faculty. The teaching of law is not conducted in any separate institution, but there is a proposal to concentrate it at King's College, and when money is forthcoming for the appointment of professors and readers, whichever college provides the teaching will become a constituent college in the Faculty of Laws. The Commissioners point out that the whole body of law, including the law of England as it stands to-day, is capable of scientific treatment, and is a department of learning with which a university ought to deal. The most scientific treatment of it which a university can provide is the best foundation for professional work. Regarding the university as the real seat of learning, they hold that it is as the faculty of a university that the scientific study of law should be carried on in its relation to other departments of learning. The Faculty of Laws should be a superior faculty, they say, and it should be necessary to take a degree in arts or science before proceeding to a degree in law. But the degree in law has long been a first degree in London, and a faculty cannot be established at once, and the time for a change should therefore be left to the discretion of the University. The Faculties of Theology and Music are dealt with more briefly. The Commissioners recommend that the former faculty should be a superior one, and find that the constitution and purposes of the existing theological colleges are unsuitable for constituent colleges of the University. The Faculty of Music of the kind that has hitherto existed in the University of London the Commissioners consider useless. The granting of external degrees might be continued, and the professor should belong to the Faculty of Arts.

(To be continued.)

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At a meeting this evening (Friday, May 2nd) in the society's rooms, West London Hospital, at 8.30 P.M., a paper will be read by Professor Frederick Hobday, F.R.C.V.S., on Observations upon Some of the Diseases Communicable from Animals to Man.

THE LANCET.

LONDON SATURDAY, MAY 3, 1913

The Duration of Protection Afforded by Vaccination, and the Importance of Dosage.

DURING the small pox epidemics of last century, and particularly in the pandemic of 1871, there were few questions with which medical men were so familiar or to which so much attention was given as the evidence of the duration of the protective effect of vaccination against small pox It was customary to measure this by different criteria the proportion of fatal to total cases at different ages, the proportion of mild or modified cases to total cases and the relative incidence of small pox on the vaccinated and unvaccinated at different periods of life The conclusions which became generally accepted as a result of these observations still govern practice and are taught at the present day, but it is natural to inquire, during a period of long immunity from small pox epidemics, and at a time when comparatively few men obtain their knowledge of the disease from direct observation whether it is now necessary to revise them in consequence of changes in the type of small pox, or of differences between modern and ancient vaccines and methods of vaccination or on account of other causes which may have been at work Dr W HANNA, assistant medical officer of health for the Port of Liverpool, has taken advantage of the systematic keeping of records in the Liverpool small pox hospitals during the 1902-03 epidemic and subsequently, to make a critical examination of the facts in over 1100 small pox cases in their bearing on the problems to which we have referred, and by so doing he has rendered a very valuable service to medicine and public health [1] The results as a whole, accord very closely with those of the earlier periods As regards case mortality at all ages that of the natural disease—i e, in the unvaccinated, which ranges from approximately 25 to 40 per cent —was reduced by the power of vaccination to about 3 per cent in those that have been well vaccinated In the unvaccinated Dr HANNA finds that it is persons at the extremes of life, mainly children under 10 years and old people who suffer most, in the previously vaccinated he has no case at all in children under 3 years of age and no deaths under 20 years but as age advances, the protective power of vaccination against death from small pox and its power of modifying the severity of the disease are gradually lost The fact that the duration of protection conferred by vaccination against attack by small pox is much shorter than the duration of its power of modifying the disease is also well illustrated by the Liverpool figures, the influence of the latter can be traced far on into late life Vaccination may "take" and pass through a typical course when performed at any time between exposure to small pox infection and the appearance of the rash if small pox develops During the first three days the degree of the protection thus conferred against attack is very high Although Dr HANNA does not find it absolute in those who are vaccinated for the first time during these early days of incubation yet the course of the disease when it occurred in such cases was extremely mild He is inclined to conclude that the modifying power of vaccination will be shown even when the case has not been vaccinated until the date of onset of small pox and that modification may take place as a result of vaccination performed after the disease has developed The data for the last conclusion are small, but the conclusion itself accords with modern knowledge of vaccines generally and the question is well worth further study at small pox hospitals

Dr HANNA S observations on the significance of the area of vaccination scars are of special interest There can be no doubt of the fact that the Liverpool experience bears out the statement that the scar area of vaccination has an important relation to the severity of small pox, the larger the area the milder the character of the disease It is of course, important to take account of the natural growth of vaccination scars, which get larger as age advances until the 20 30 year age period is reached and then gradually become smaller in all probability owing to atrophy of the scar tissue Analysis of cases in terms of number and area of scars should therefore be particularly directed to age groupings, and it is in this way that the evidence of the great importance of securing a sufficient dosage of vaccine in the performance of vaccination is best brought out Dr HANNA S little book, which contains some excellent illustrations of small pox cases and of concurrent variola and vaccinia will perhaps be in special demand by medical officers of health and public vaccinators, but it may cordially be recommended to a wider public

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Death Certification, Especially in Respect of Lunatics.

AT a recent meeting of the Medico Psychological Association a paper was read by Dr SIDNEY COUPLAND, Commissioner in Lunacy, upon the subject of the certification of deaths and their official registration A highly interesting discussion followed proving that the apology with which Dr COUPLAND prefaced his communication was quite unnecessary His justification for introducing for the consideration of the Association a subject having little obvious relation to the problems usually discussed at their meetings was complete The changes in the regulations for the registration of deaths which have been introduced recently with the object of securing greater uniformity in tabulation, and consequently greater accuracy in national statistical results, are fraught with real importance to all branches of medicine, while the duty of attesting the cause of death of a patient which is imperative on every practitioner of medicine, is especially so in the case of the medical officers of lunatic asylums, who, moreover, possess ample opportunities for obtaining precise information For in these institutions the cause of death is verified by necropsy in at least three-fourths of the cases that terminate fatally.

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[1] Studies in Small pox and Vaccination By W Hanna M A M D D.P H Bristol John Wright and Sons Limited 1913 Price 7s 6d

Commenting on the recent issue by the Registrar-General of an "Official Manual of Causes of Death," respecting which a notice appeared in our columns at the time,[1] Dr. COUPLAND reviewed the history of death registration in this country from its establishment in 1838 down to the present date. It is familiar knowledge that the classification of diseases, with a view to the accurate registration of causes of death, originated with Dr. WILLIAM FARR, the distinguished founder of vital statistics. The classification which, after much patient labour and investigation, was adopted by him formed the basis of the first edition of the nomenclature of diseases issued in 1869 by the Royal College of Physicians of London, which body since that time have rendered great service to science by the decennial revision and publication of their nomenclature. At the request of the Geneva Statistical Congress in 1856 Dr. FARR, in coöperation with Dr. MARC D'ESPINE, prepared a report on the nomenclature and classification of disease, with the object of establishing an international system—a scheme which is now about to be realised. Several modifications of the original classification were adopted from time to time by Dr. FARR; and his successors, Dr. WILLIAM OGLE and Dr. JOHN TATHAM, have revised the nomenclature for use in the General Register Office in order to bring it into line with the decennial revisions of the Royal College of Physicians of London. In the Registrar-General's last annual report it was announced that the list of death-causes authorised by the International Commission of Paris in 1909 will be adopted in all future publications by Somerset House. This modification of the official nosology will bring English mortality records into line with those of other European countries; and as the vital statistics of England and Wales will henceforth be published for the same districts as those into which the country has been divided for purposes of sanitary administration, there is at the present a double effort towards harmony.

The Lunacy Commissioners, recognising the distinct expediency of adopting for institutional use a synopsis of death-causes in accordance with the tables in the national returns, have authorised a revised schedule for use in the reports of asylum medical officers, and this schedule came in for some criticism at the hands of the members of the Medico-Psychological Association. In certifying the cause of death probably the chief difficulty encountered is the ambiguity which has from the first attached to the expressions "primary" and "secondary" in relation to that event. And, for the reason that in the statutory records one cause alone can be tabulated, the difficulty referred to is obviously critical. This is the most often discussed point in our system of death certification. A code of rules has long been in use at the General Register Office to determine which of the causes of death assigned in the medical certificate could reasonably be regarded as the most important factor. In 1903 a similar code was compiled by an International Commission. For the first time, both these sets of rules are now published in the official manual, the study of which will be found instructive and helpful in death certification. From the manual we learn that there is a growing tendency among practitioners to give the more correct rendering of the term "primary" as principal, rather than as first in point of time; and to this practice Dr. COUPLAND advised his hearers to conform. As an aid to that end the certifying practitioner has now before him an authoritative definition of the terms in question. The wording of this definition has recently been settled after consultation with the Royal College of Physicians of London. It runs as follows: "By 'primary cause of death' is meant (in the case of death from disease) the disease present at the time of death, which initiated the train of events leading thereto, and not a mere secondary, contributory, or immediate cause, or a terminal condition or mode of death." Respecting the expression "secondary," inasmuch as differences of opinion are inevitable as to the precise meaning of the term "primary" in estimating the relative importance of one or other morbid states in causing death, it becomes necessary to keep in view those conditions which are noted as "secondary," since they find no place in statistics dealing with one cause only. And we may here record with satisfaction that the Registrar-General intends to publish from time to time subsidiary tables to include both groups, where the secondary cause is sufficiently important to warrant its tabulation.

In the more limited statistics of lunacy it is proposed in the future to ask for a record, in a separate column, of the total number of instances in which a disease is regarded as secondary. In that way it is hoped that a truer conception than the present may be arrived at concerning the relative frequency of each morbid condition sharing in the fatal issue. As illustrative of lunacy experience Dr. COUPLAND instanced, among others, the case of general paralysis of the insane, which accounts for so large a proportion of the deaths in asylums. It is noteworthy that although the return of this disease as the primary cause may generally be justified, in some cases it does clearly rank as secondary, when complicated, for example, by dysentery or phthisis. The same applies to epilepsy and disease of the brain and cord, serving to emphasise the importance of tabulating secondary as well as primary causes, if we wish for accurate knowledge of the prevalence of such affections. Respecting some other diseases which are exceptionally prevalent among the insane, as compared with the general population, the results of clinical experiences are recorded. Among these, next in importance to general paralysis, as contributory to an asylum death-rate, comes pulmonary tuberculosis, which accounts for 14 per cent. of the total asylum mortality as contrasted with 10 per cent. in the mortality of the rest of the community. On the other hand, cancer comes low in the list of fatal diseases among the insane. In the year 1910 the proportion of deaths from this cause among persons at ages above 25 years was 33 per 1000 in asylums as against 114 per 1000 among the rest of the community. But when the incidence is compared, of tuberculous phthisis and cancer, among equal numbers living respectively inside and outside asylums, we find, in the one case, a still greater disparity, and in the other an equally striking approximation in the respective rates.

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[1] THE LANCET, Feb. 24th, 1912, p. 528.

Thus, in each 10,000 living the asylum deaths from phthisis were 127, that of persons outside asylums only 13 But in regard to cancer, the like ratio for the former was 29, for the latter 20, which would seem to show that, in spite of its relative infrequency as a cause of asylum mortality, the incidence of cancer is not really below the rate in the general community Statistics are forthcoming from which it would appear that the prevalence of cancer is not favoured by agencies similar to those which favour the spread of tuberculosis, but the conclusions based as they are on statistical comparisons of communities numerically unequal, must be guarded and undogmatic Clearly such figures point the direction for future inquiry, and cannot be accepted as expressions of ultimate truth

Annotations.

"Ne quid nimis

THE DECLINING BIRTH-RATE IN GERMANY

The declining German birth rate is a subject which has already for some time been engaging the active attention of the authorities, and it is generally recognised that the question has become one of national importance In two Prussian provinces the authorities have gone so far as to forbid the usual publication in the daily papers of the names of the recently married and of those about to marry, in order to prevent the contracting parties being flooded with prospectuses and price-lists of anti-conceptional appliances Already the fall in the birth rate is beginning to be noticeable in the decreasing number of children entering the German elementary schools this year The limitation of families according to recent observations, is by no means confined to the so called better classes, it is also being practised more and more by the skilled workmen The total statistics for the whole of the German Empire for 1912 are not yet available, but from the figures already published for 42 of the large towns it is abundantly evident that in spite of the improvement in the death rate the birth rate continues to decline steadily Compared with 1911, the decrease in the number of births during 1912 was particularly marked in Frankfort o/M, Neukolln, Schoneberg, and Wiesbaden These are all prosperous towns, indeed, they are termed the "towns of the people with independent means owing to the large number of well to-do persons retired from business or duty who select these for a residence Two are suburbs of Berlin, and one, Schoneberg, holds the record as regards decrease in the birth rate This decline is even more striking when the figures of ten years ago are compared with those for the past year An illustration may be given for a few of the larger cities —

	1902.		1912	
	Total births	Per 1000	Total births	Per 1000
Munich	17 861	35 1	13 458	21 9
Leipzig	14 922	31·5	13 400	22 1
Dresden ..	12 712	31 5	11 301	20·3
Cologne	14 621	37 8	14 232	26·7
Breslau	14 424	33 4	13 961	26 4
Nurenberg	10 373	33 7	9 025	25 5
Hanover	6 574	27·0	6 371	20·3
Mannheim	6 211	42 6	5 823	23·7
Strassburg	4 635	30 0	3 923	24 4
Schöneberg ..	2,825	26 5	2 430	13 7

In the last named the birth rate in ten years has thus dropped by very nearly one half The above figures refer only to the number of infants born alive leaving the number of stillborn entirely out of consideration On the other hand, the decrease in the birth rate is really greater than apparent from the above figures when it is borne in mind that all these towns have had within the same period to record a very great increase in population, due to the ever-increasing influx from the country The natural increase in population in Germany—i e, the surplus of births over deaths—at present amounts to about half a million annually.

THE TITLE OF "DOCTOR."

Until the end of last year a by law of the Royal College of Physicians of London ran thus 'No Fellow, Member, Extra-Licentiate, or Licentiate of the College shall *assume the title of doctor or* append to his name the title of doctor of medicine, or the letters of M D or any other letters indicating that he is a graduate of a university, unless he has obtained a degree entitling him to do so By a resolution of the College passed on Dec 12th of last year the words in italics have now been omitted It is doubtful whether the full bearing of this change has been appreciated by the Licentiates Hitherto they have been under a certain disadvantage—namely, that although they had passed a good qualifying examination yet if they did not also possess a university degree entitling them to do so they were forbidden to take the designation of doctor The alteration of the by law removes this disability, and they are now permitted to style themselves Dr —— on doorplates, visiting cards, and so on, if they wish to do so It must be distinctly understood, however, that this is only a courtesy title, or perhaps it might be termed an occupation or professional title, as distinguished from "doctor of medicine' which is an academic title. Nevertheless, we feel sure that the removal of the restriction to assume the title of doctor will be greatly appreciated by many of those directly concerned Previously the distinction between practitioners who did and did not hold university degrees was rather an invidious one, as it tended to the idea that their professional skill and knowledge were similarly unequal, which was by no means necessarily the case, now without fear of any reproach for using a forbidden term the Licentiates of the Royal College of Physicians of London can adopt the professional title which is generally understood by the public to indicate that they are duly qualified practitioners of medicine

THE DIET OF THE GLASGOW LABOURING CLASSES

The interesting report on the food of the labouring classes in Glasgow, which was referred to by our Glasgow correspondent recently, has now been issued by the authority of the corporation of that city The inquiry, it will be remembered, deals with the diets of poor families from the points of view of physiological energy and of cost The collection of the necessary evidence required great tact in dealing with the households concerned, and an infinity of care and exactitude in the preparation of the numerical factors afforded The work was carried out by Miss Dorothy E. Lindsay, B Sc, assisted by a small staff, working under the supervision of Professor D Noel Paton The method of work is the same as that carried out in Edinburgh in 1900, it consists in enumerating each household, and weighing, classifying, and pricing all the food consumed by that household during a given period Sixty houses were selected from the poorest parts of the city, and they are arranged in seven groups according to variations in income, with three additional groups of inebriate parents and exotic racial distinctions (Hebrews and Italians) The articles of diet are arranged under the headings of proteins, fats, and carbohydrates, and their physiological value is stated in calories calculated in the usual way In estimating the relative requirements of men, women, and children in any given household, the standard used was Atwater's tables. By these tables the food consumption of any family is worked out in terms of "one labouring man" unit, women and children being recorded in terms of decimals. The proper average of diet is usually estimated at 3500 calories per man, but the total average found in this investigation was only 3163 calories, and even with the higher ranges of income the energy value of the food did not reach higher than 3467, and in some abnormal cases it was as low as 2700. The cost per man per day averaged 7·07*d.*, and in some instances it was as low as 6*d.* The principal foodstuffs were found to be bread, potatoes, beef, milk, sugar, and vegetables, and of the proteins consumed about two-thirds are vegetable protein. Hardly any oatmeal or peas or beans is used now in Glasgow among the poorer classes, and cheese is consumed in very small amounts. The remedies suggested by the investigators will unfortunately not commend themselves to the palates of the persons concerned. Bad cooking, bad marketing, and a bad choice of food are responsible rather than restricted means. The only practical improvement would be a return to a simple diet including much oatmeal, and it might be suggested more cheese in place of the expensive protein-rich animal foods, meat, fish, and eggs, which when procured are of inferior quality.

THE SPREAD OF PELLAGRA.

MUCH has been written in recent years concerning pellagra, more especially in the United States, where the disease seems to be spreading in certain localities, causing considerable uneasiness, not to say alarm, in the minds of many people. Numerous inquiries have been made with the view of definitely proving what is the origin of the malady, but, so far, without any marked success. A very instructive contribution on the subject has lately been published in our American contemporary *Public Health Reports*, in the issues of March 7th and 14th, by Passed Assistant Surgeon R. M. Grimm, of the Public Health Service, who undertook an investigation during the summers of 1911 and 1912 into the circumstances associated with pellagra cases in an area comprising portions of three States, Kentucky, South Carolina, and Georgia, where the disease was reported to be spreading. A large section of the population in this area are negroes. In the course of his inquiries Dr. Grimm conferred with 200 medical men practising in this region, and from them obtained notes of 1426 cases, 323 of which he personally interviewed. In the investigation which followed attention was paid to the general character of the classes of people attacked by pellagra, to occupation and economic circumstances, to the situation and sanitary condition of the patients' homes, to their food- and water-supplies, as also to the question of biting insects and their possible relation to the spread of the malady. It appears that the majority of the sufferers who were visited by Dr. Grimm belonged to families of slender means, whose general environment and conditions of life were of a very low standard. Most of them seemed to be living a hand-to-mouth existence, depending for their support on what they earned day by day. Most of the people affected belonged to the families of cotton-mill workers, miners, and artisans, while only 48 out of the 323 were of the agricultural class. Medical opinion was to the effect that these people were not receiving the proper quantity or quality of the food they needed, and in many families the dietary even when of proper quality received very hasty and incomplete culinary preparation. These people largely lived on articles of food bought from day to day at the small local grocery stores, where most of the stock consisted of articles which had undergone some process for their preservation, such as canning or desiccation. No constant difference could be discovered in the dietaries of the pellagrous and the non-pellagrous membe of the same families. "Hominy and meal" seemed to b the form of "corn" most in use. As regards biting insect the great majority of the houses visited afforded evidenc of infestation by these, including the common bed-bug Mosquitoes are present in the area under investigation and the ordinary house-fly is found practically in ever house; they were observed to be especially numerous i any house where a pellagrous patient was confined to bed Some of the local granaries were seen to be heavil infested by weevils and moths. In a number of place the simulium fly could be detected, sometimes in clos association with pellagra cases. There are many runnin streams in the affected area, and none of the homes o the pellagrins seemed to be very far from running water It is important to mention that besides the cases reporte to Dr. Grimm he saw a number of other instance among the resident population presenting symptoms of suspicious sort suggestive of pellagra. They were, in fact on the borderline, possibly in the earlier stages of th disease, but to say that they were actually cases o pellagra was not easy. There are certain conditions whic seemingly predispose to pellagra through a lowering of th body's powers of resistance, such as hard work, worry grief, or some previous illness. Enlarged thyroid wa seen in some female pellagrins, but it was not constant. It is noteworthy that more cases of pellagra were found among the white population than among the negroes, and that more females of each race were attacked than males, and for this curious circumstance no satisfactory explanation is as yet forthcoming. When blacks suffer from pellagra their case mortality is higher than that of the whites, as also is the insanity incidence rate, males having a higher rate in this respect than females. Dr. Grimm, in conclusion, admits that the evidence he has collected does not afford proof of a relationship between the character of the food-supply and pellagra, but he insists that no investigation into the etiology of this disease can ignore the nature of the dietary of the persons attacked. On the other hand, the possibility of some insect playing a part in the dissemination of the disease does not seem to be inconsistent with the facts collected. Further investigations on a large scale are suggested by Dr. Grimm, and no one will deny the need for such inquiries, so that the etiology of this puzzling disease may be elucidated and that measures of prevention may be formulated without unnecessary delay.

OBSERVATION IN THE STREET.

A PRETTY argument might be waged upon the merits of a town walk and a country one as stimulants to observation. We can imagine the town advocate declaring that if he walked a country road in the winter there was really nothing for him to notice but the bareness of the hedges and the trees. Even in the kindlier seasons he can find comparatively little to see or hear. The old truism is illustrated that we only see what we look for, and the townsman in the country does not know what to look for nor where to look for it. The countryman in town is in another case. So much is thrust upon his observation that he is overwhelmed, and he also sees nothing, but for an opposite reason. His wits, moreover, are entirely occupied with avoiding a catastrophe from motor-'buses and taxicabs when he crosses a road or from the innumerable pedestrians when he keeps to the pavement. Yet to the initiated safe progress becomes an unconscious habit, and the eyes and brain are at liberty to observe. What scope and variety of objects and of persons a London walk affords is too little appreciated by most who pass along the streets. What do most of these people look at as they go? It is an interesting question, and the regrettable fact is that if a hundred persons who walked down Regent street were asked at Piccadilly what they had been looking at since they left Oxford Circus, probably about 90 would reply, "Nothing in particular", if they were truthful that is to say, which is hardly to be expected in so large a proportion The ten observant folk would, we imagine, all be women who had been looking in the shop windows They had walked with a definite object in view They knew, more or less, what they were looking for, and they certainly knew where to look for it Consequently their walk was a practice in observation, whereas for the other 90 it was a lost opportunity There is great pleasure, no doubt, in merely walking along and letting the eyes and thoughts wander carelessly and unreflectingly Such an excursion provides, at any rate, gentle exercise for the body and almost complete rest for the mind But to him who walks and looks for something definite the street affords a finer recreation If he looks for character, for types of nationality for distinctive evidences of profession, for symptoms of disease, even for traits of fashion, what an enlightenment is his stroll Instead of a vague and slightly annoying rabble that a little interferes with his progress the crowd of passers by becomes a number of units each full of interest and meriting the quickest and closest observation The whole value of the street is altered Instead of being "a boy among the pebbles' our observer becomes a geologist on the beach He has something to look for and an endless field of observation in which to look for it Happy is he whose training has taught him to observe, and there is no item of a medical education that more deserves our gratitude than this

BILATERAL CEREBRAL ABSCESS INVOLVING THE MOTOR AREAS

FEW cases of symmetrical abscesses of the brain have been recorded In the *St Paul Medical Journal* for April Dr W A Dennis has *reported a case* in which each motor area was involved, producing practically complete double hemiplegia A youth, aged 18 years was transferred from the medical to the surgical service of the University Hospital on Feb 2nd, 1912 with the diagnosis of localised left pyo pneumothorax communicating with a bronchus On the 5th, 3 in of the eighth rib were resected, several ounces of thick foul pus were evacuated, and the cavity, which was found to involve the lung substance, was drained The temperature, which had been 102°–103° F in the evening quickly dropped to normal, and the offensive expectoration, which had been profuse, diminished The patient got up and was greatly improved, though the discharge from the wound remained profuse On the 24th he had an attack of aphasia characterised by a fixed stare and the repetition of the words ' water' and "what ' He seemed unable to form a sentence On the next morning he felt well, but in the *afternoon a similar attack, lasting about a minute,* occurred On the 27th there was another attack with rigidity of the right hand Cerebral abscess was then diagnosed On the following day another attack of aphasia occurred, and he appeared to be paralysed on the right side But after this he talked intelligently for a few minutes and ate his dinner Soon he became aphasic, the fingers of the right hand twitched, and the arm was held stiff Half an hour later there was a general convulsion and the whole body twitched about for four minutes, during which he was unconscious After three hours he was much better and fully conscious On the 29th all he complained of was headache on the right side of the head He was bright, talked normally, and had no paralysis A neurologist who saw him in consultation diagnosed abscess beginning to form in the left temporal lobe The patient did not seem in a favourable condition for operation, which was postponed for a few days Then other symptoms developed On March 4th the left hand felt numb On the 5th the left arm was jerked about for five minutes, and on the next day it was paralysed Later in the day there was a general convulsion more marked on the right side and paralysis of the whole body followed Still later in the day he could move the left arm and leg, and again still later the arm became paralysed Two days afterwards he could use it again He often complained of headache, and vomiting occurred There were double optic neuritis and incontinence of urine The temperature was subnormal much of the time, and the pulse varied from 60 to 90 On the 16th an osteoplastic flap was made over the left motor area, and at the depth of about 2 cm an abscess containing 1½ ounces of thick offensive pus was found and drained The abscess lay beneath the ascending frontal convolution and extended downward and backward for about 3 cm Next day the temperature was normal and the pulse 86 He could move both legs and the right hand, but the left hand was paralysed He could not speak, but appeared to understand what was said to him On the 19th the pulse suddenly rose to 160, and from this time until death, which took place on the 30th, his condition was critical The right arm was often used but never the left The right pupil was dilated An abscess in the right motor area was suspected and the question of a second operation was considered, but was not performed on account of the bad condition of the patient and the opinion of the neurologist that this was due to extension of pus towards the base of the brain At the necropsy the drained abscess was found almost obliterated In the corresponding area on the right side was an abscess rather larger than the one on the left side In the anterior pole of the left frontal lobe was a third small abscess Each abscess was distinctly limited by a capsule and there were no signs of involvement of the meninges or ventricles As in most cases of multiple abscess of the brain, the lesions in this case were embolic from a primary focus in the chest

A RECENT ANALYSIS OF ASPARAGUS

THE popularity of asparagus makes a fresh analysis of it interesting When we remember that asparagus belongs to the same family of plants—the liliaceæ—as do the garlic, leek, and onion we may expect to find some constituents in common Sulphur combined in the form of an oil is, perhaps, the most prominent of these but in asparagus it is not so obvious to the taste and smell as it is in the raw onion Curiously enough, however, when the tender shoots of asparagus are left in water for a few days we find that the smell of onions quickly develops and after a time becomes very marked Again, if asparagus is extracted with ether an oil is obtained which has a faint smell *of the raw shoot This oil, on analysis, proves to contain* sulphur It is probably this sulphur constituent which gives the well known peculiar odour to the kidney excretion after a diet of asparagus, and not the other principle peculiar to asparagus, asparagin There is reason for believing, however, that asparagin has decidedly diuretic properties According to our analysis it occurs in the tender shoots to the extent of about 0 5 per cent As to the actual nutritive value of asparagus, this must be placed low, especially in view of the fact that what nutritives exist in the plant are rapidly extracted by boiling and even by cold water Approximately only a tenth part of the raw asparagus shoot is solid matter, and as much as 70 per cent of this is soluble in cold water, while quite 80 per cent is soluble in boiling water It follows that in the process of cooking a very considerable

The artificially heated theatre here should not, we imagine, be much cooler than the artificially cooled theatre in a tropical country. Ether is freely used by evaporating methods in European and American operating theatres, and probably could be equally employed in many places where it is at present regarded as taboo. We are strengthened in this opinion by an article in the *Bulletin of the Manila Medical Society* (February, 1913). This is from the pen of the anæsthetist to the Philippine General Hospital, who writes with an experience of 19 months in Manila, during which time there were some 1600 cases. The writer remarks that it was surprising to find ether being very satisfactorily administered in Manila. She (for the writer is a woman) went from Chicago, where opinion as to the use of ether in the tropics is much the same as that to which we have referred above. Guided by what she saw, she instituted the giving of ether by the drop method, to which she was accustomed at home. This she finds quite satisfactory with the proviso that considerably—in her opinion from 15 to 20 per cent.—more ether is required per patient than in cooler climes. The only real difficulty, as might be anticipated, is in the storing of the ether. The tin cans so commonly employed in America were not sufficiently air-tight and much evaporation of ether took place from them. The ideal vessel she describes as a glass container. The boiling point of ether is about 95° F. and it should not be difficult in many tropical places to store ether where this temperature would not be reached, nor to procure it in bottles that would allow no leakage if so stored.

A NEW ANTITYPHOID VACCINE.

OF the vaccines which have hitherto been used as prophylactics against typhoid fever, the one prepared by Pfeiffer and Kolle and employed in Germany consists in agar cultures of the bacilli killed by heat, while Wright's preparation is made from bouillon cultures sterilised, according to the original method, by heating to 60° C., or in Harrison's modification of the procedure to a temperature of 53° C. The latter thus contains, in all probability, soluble products of the bacteria formed in the fluid culture medium, and these may be of some importance in the production of immunity, since Levy and Fornet found that filtrates of typhoid cultures had not only an aggressive but also a protective action. A recent modification in the mode of preparing vaccine has been carried out by Levy and Bruch,[1] who make use of the power possessed by some neutral salts to kill bacteria by the altered osmotic conditions brought about by the addition of suitable quantities to fluid media, the bodies of the organisms being broken up and disintegrated. Levy and Bruch have used galactose for this purpose, as this sugar can be sterilised by heat without undergoing alteration, adding 1 part of galactose to 3 of a broth culture of typhoid bacilli, evaporating the solution to syrup, and finally drying *in vacuo*. The resulting white powder is further ground up; for use it is dissolved in distilled water. Comparative experiments on guinea-pigs with Wright's preparation, with a similar vaccine in which the bacilli were killed with carbolic acid, and with the dry vaccine prepared as above described, showed this last to have superior immunising power, while its injection gave rise to little reaction. Its toxicity was greater than that of the other preparations, possibly showing that the active substances were less altered when obtained by this means than by heat or antiseptics. This toxicity diminished with keeping, while the immunising power of the powder remained intact. The writers believe that a dry vaccine of this nature will be of considerable advantage for foreign and colonial use, as it keeps well in spite of high temperatures. No trial of the new vaccine on human subjects is recorded.

INDUSTRIAL DUST EXPLOSIONS.

AN interesting report has been issued from the Home Office this week on the inflammability and capacity for transmitting explosions of carbonaceous dusts liable to be generated on premises under the control of the Factory and Workshop Acts. According to the author of the report, Dr. R. U. Wheeler, the chemist attached to the Explosions in Coal Mines Committee, the dusts examined may be divided into three classes—viz.: (1) those which ignite and propagate flame readily, the source of heat required for ignition being comparatively small, e.g., a lighted match; (2) those which are readily ignited, but which require a source of heat of large size and temperature, e.g., an electric arc, or the flame of a Bunsen burner; and (3) those which do not appear to be capable of propagating flame under any conditions likely to be present in a factory. The investigation was prompted by two serious dust explosions which occurred in November, 1911, at a provender mill in Glasgow, and at an oil-cake factory in Liverpool. Altogether 66 samples of dust were examined, which were not specially selected, but taken from beams, ledges, or other projections by the factory inspectors in the course of their inspections. In Class I., sugar, dextrine, starch, and cocoa proved to be most dangerous. This class includes also flour, tea, chicory, and cork. In Class II., samples of shoddy, being of a fluffy nature, did not readily form a cloud in air, but they contained a sufficient quantity of fine material to render them dangerous when in bulk. In the same class a sample of shellac contained over 60 per cent. of incombustible matter, but all the same was inflammable. This class included also oil cake, sawdust, horn meal, and mustard. In Class III., some samples were more or less readily inflammable, but showed no signs of being capable of propagating flame. The report is a valuable one, and indicates clearly those manufactures in which dust may easily be a source of danger from its inflammable nature and tendency to explode. We hope the matter will receive that careful consideration which it demands.

THE VENTRICLE-STRIPPING OPERATION IN HORSES.

ABOUT a year ago we referred to the results obtained in "roaring" horses by the ventricle-stripping operation, first made a success by Professor Williams of the Veterinary Faculty of Cornell University, U.S.A., and introduced into this country by Professor Hobday. The operation is now being practised in America, France, Germany, Austria, Italy, Belgium, Holland, and Hungary. In the *Veterinary Journal* for April Professor Hobday, whose own cases now number 695, continues his proposed tracing of the subsequent history of 100 of these for four or five consecutive years—a good average period of useful life for a horse of the hunter class. The first two were operated on in September, 1909, and it is interesting to note that they are still at work to the satisfaction of their respective owners. This list of Professor Hobday's—which refers to the same horses as those in the lists previously published in January, 1911, and April, 1912, respectively—falsifies beyond doubt the pessimistic predictions with which the operation was greeted on its introduction, indicating as it does the permanence of the results attained. Professor Hobday's experience leads him to the opinion that in fully 75 per cent. of cases the operation will convert a roaring galloper from a useless into a useful beast, while for carriage and cart horses the proportion of success goes as high as 90 or even 95 per cent. In one point Professor Hobday has modified his opinion, for whereas he formerly allowed *horses to be tested at the gallop a month after* operation, he is now convinced that this is unwise and that a minimum of two months' rest or, even three, should occur before allowing violent exercise. One possible source of disquietude is dispelled—viz., the fear that the operation may become a "dealer's" operation; for while the horse may gallop noiselessly enough to pass a test for wind, it rarely loses the habit of "grunting" when hard pressed.

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[1] Arbeiten aus dem Kaiserlichen Gesundheitsamte, 1913, Band xliv., Heft 1, p. 150.

The Right Hon. A. J. Balfour, M.P., will open the new school buildings of Guy's Hospital Medical School on Tuesday afternoon, June 3rd. The opening ceremony will be performed in the Physiological Theatre, after luncheon in the Court Room of the hospital.

MAN'S MENTAL EVOLUTION, PAST AND FUTURE.

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PHYSICIAN TO THE WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM.

I.

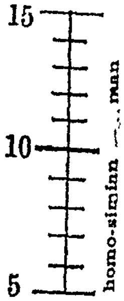
I propose in this essay briefly to consider the factors which have determined man's mental evolution; to seek to discover how far these factors are still in operation, how far they are now being supplemented, or are likely to be supplemented in the future, by others; and to attempt a forecast of his mental destiny. Surely than this no study can be more attractive; none, considering the issues involved, more important.

I shall endeavour to elucidate the laws by which mental evolution takes place, to explain why in some animal species it has advanced further than in others—why, e.g., the primates have reached a higher mental level than the other mammals, and why among the primates man has outstripped all others in the mental race. How came it—and the question must have occurred to many—that of several anthropoid species, one particular species shot ahead in mental development and quadrupled its brain mass, while the gorilla, the ourang, and the chimpanzee have during the long years of man's ascent remained on the same rung of the mental ladder?

If an extra-mundane anatomist, a Martian, let us say, acquainted with the laws of organic evolution, but knowing nothing of this world's animals, were given for examination a man, a giraffe, and a male narwhal, he could not fail to be struck by the large size of the man's brain, the great length of the giraffe's neck, and the enormous development of the upper lateral incisor of the narwhal. He would doubtless argue, *and rightly, that in each case the exaggerated feature* served some special adaptive purpose, and that it must have evolved in accordance with the laws pertaining to biological evolution.

There is, indeed, no doubt that the brain has evolved in accordance with those laws, and inasmuch as it is the organ of mind, we must conclude that mind has evolved on the same lines. Mental evolution has therefore to be studied in the same way as morphological evolution, and the problems for solution are just as susceptible of elucidation in the one case as in the other.

It is convenient to indicate the successive phases of man's evolution from the ape in terms of cranial capacity, according to a plan which I have already suggested.[1] Briefly, it is this: assuming the cranial capacity of the highest anthropoid to be 500 cubic centimetres and of the average European to be 1500 cubic centimetres, we may mount upwards by successive grades of 500 to 1500 cubic centimetres, or (striking out the noughts) from 5 to 15 (see Figure); and if, further, we suppose the rank of homo to have been reached at the tenth grade, the pre-human between the fifth and the tenth grade may conveniently be designated the homo-simian. We can thus speak of a sixth, seventh, eighth, and ninth homo-simian, and of a tenth, eleventh, twelfth, thirteenth, fourteenth, and fifteenth homo or man. On this plan I assume, it will be observed, that the anthropoid emerged by imperceptible degrees through the homo-simians into the human, that he, so to speak, gradually clambered up the ladder by grasping it at the sides, rather than mounted upwards by a series of leaps from rung to rung.



It is difficult to forbear raising here the question whether we are to regard the evolving human as having passed through one species or more than one in his mental ascent. Are we, e.g., to regard the attainment of each successive rung as equivalent to the origin of a new species? or are we to suppose that only one species—the homo-simian—separated the ape from man? These are questions I must leave the zoologist to answer.

At the fifth stage man's anthropoid ancestor abandoned an arboreal for a terrestrial life, being led to this, I suggest, in the search of food, and especially of animal food, which from this time onward right up to the period of fixed agriculture he diligently pursued. At first he was able to secure little more than vermin: the homo-simian was essentially a *vermin-hunting period.* Later he came to hunt game. We may assume that by the tenth grade (representing a primitive type of man, capable of rudimentary language) he had already learnt to stalk, and possibly even to trap, the larger game; and thus was initiated what may be termed the *genuine hunting period.*

Our Social Hierarchy a Mental Hierarchy.

Among primitive tribes the mental level is much the same throughout the whole tribe. While there is always a tendency for some amount of sorting into mental grades—a man of commanding ability, e.g., is not likely to occupy a subordinate position in the tribe—there is no well-developed mental hierarchy. On the other hand, in civilised nations such as our own there has for many generations been taking place an automatic sorting of the population into grades. These constitute not merely a social but a mental hierarchy—one, namely, in which innate mental endowment increases from below upwards. This results from the fact that each social class, except the lowest, is continually being recruited from the best mental types from lower down, notably from the grade immediately below it, while there is a tendency for the inferior types in each class to filter downwards. The result is that among civilised peoples the social grades may be roughly classified as follows: (1) the aristocracy, or hereditary leisured class; (2) the upper middle class (professional men, merchants, &c.); (3) the lower middle class (small tradesmen, clerks, &c.); (4) the upper working class (skilled workmen); (5) the lower working class (unskilled workmen); and (6) the vagrant and unemployable class (with which may be grouped criminals and the worst decadents).

The mental hierarchy which these classes represent is one not only of intellect but of character. Man needs not only brains but grit in order to succeed in life—honesty, sobriety, industry, self-discipline, backed up by a spirit of emulation, and, above all, by will-power. Indeed, if well equipped in these moral respects a man with no more than average intellectual ability may raise himself well above his fellows; but success can be confidently predicted if character is backed by ability: those possessed of both brains and grit are bound to mount upwards. It follows that the members of each social class are, on the average, more richly endowed in both these respects than those of the class immediately below. I refer, of course, to congenital endowment.[2]

In the establishment of this mental hierarchy the woman has played her part as well as the man. Leaving out of consideration the influence of beauty—for it does not concern us here—the possession of wealth has been, and is, the main qualification for the woman's social ascent. Thus a large number of rich heiresses are drafted from the upper middle to the aristocratic class, and this is to the mental advantage of the latter, since middle class heiresses, as the children or relatives of men who have acquired wealth, tend to inherit their wealth-getting capacity, which capacity, as we have already hinted, generally implies both brains and character.

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[1] The Evolution of Man's Diet, The Lancet, Sept. 10th, et seq., 1904.

[2] It may be argued that the rise in the mental level stops short of the aristocratic class, but in estimating the congenital mental endowment of this class it has to be remembered that its members are placed at a great disadvantage by being leisured. With no incentive to struggle on the one hand, and abundance of temptation on the other, their conditions are not calculated to bring out the best that is in them.

It will thus be seen that in the case of a community like our own a process of selection is at work sorting individuals into mental grades. There is a mental struggle for worldly success, and it increases in stringency from the lower working class upwards. A higher mental excellence is needed to secure an average success in the upper middle class, e.g., than in the unskilled working class. But *although ascents and descents from one class to another* are continually taking place, there is, nevertheless, a certain stability in the composition of each class. People generally marry in their own class, and most of those belonging to a particular class come of an ancestry extending back through many generations of that class. Now this marriage between individuals belonging to somewhat the same mental level must tend to maintain their class at the same level. In the unskilled working class, e.g., there is intermarriage of the inferior, and in the upper middle class intermarriage of the superior, types. This must tend to maintain the mental endowment of each of these classes at a certain level, while at the same time the total effect of the arrangement is to increase the output of good brains. The upper middle class, greatly [illegible] cratic, has the best brains [illegible] between its members is [illegible] superior mental types, and this gives greater opportunity for the breeding of like superior types than would result in the case of a community having no psychic hierarchy. Parents of superior mental endowment are more likely than parents of inferior mental endowment to produce a genius. For this reason I should expect a community with a well developed social hierarchy, and in which individualism is allowed full play, to produce a larger proportion of intellectual giants than one in which there is little social differentiation. As a matter of fact, in such a community as our own the men of outstanding ability are mainly derived from the upper middle classes. They practically never come from the unskilled working-class, and, indeed, comparatively rarely from the "working class" at all—a fact all the more remarkable when we consider how greatly the working class outnumbers the upper middle class. This division of the community into mental grades brings into strong relief the fact that all men are *not* equal.[3]

[illegible] mi [illegible] bet [illegible] not be "how does the civilised man compare mentally with the savage"? but rather "how (in the case of such a nation as our own) does the upper middle class man, the skilled mechanic, the unskilled workman, the vagrant, respectively, compare with the savage"?

The vagrant I should place on a lower mental plane than the savage.[4] How far the average unskilled workman is mentally superior to the savage is matter for investigation: it may be doubted whether he stands on a much higher mental level. Sharing as he does all the advantages of traditional knowledge, we are perhaps apt to place him too high in the mental scale. We must never forget that all the great discoveries, all the great advances of civilisation, have been initiated by the chosen few, by men of special powers, while all alike have benefited by these advances. The rank and file of the community have, as it were, been pushed along in the course of civilisation by the select few, and have shared in the advantages which these have won.

Mental Capacity may be Potential or Actual.

In estimating the mental capacity of an individual or of a race, distinction must be drawn between the potential and the actual. Every human being is born with a certain measure of psychic potentiality—capacity capable of being awakened into actuality by suitable stimuli, but in the absence of these, remaining for ever dormant.

Suppose it were possible for a person to grow up in some isolated part of the world wholly cut off from his fellows. In such a case only a small fraction of his mental potentiality would ever become actual. Not only would he be without language, it is even doubtful whether he would, of his own accord, construct the rudest implement. His knowledge, owing nothing to tradition, would be but the accumulation of his own limited personal experiences. His actual (as distinguished from his potential) mental level would be little higher than that of the ape. It is essentially by mixing with his fellows that a man's dormant capacities are awakened. He *observes and copies his human associates*, and by means of language is able to come into intimate mental contact with them, profiting not only by their experiences but by their traditional knowledge. This traditional knowledge, even before man learnt to record his thoughts in writing, was considerable; since he learnt to do so it has undergone an immense, we may almost say an infinite, increase, and its influence in furthering individual mental development is enormous. What would a Shakespeare, a Newton, a Wagner, have done if he had lived and died among primitive savages such as the Australians?

Bearing these facts in mind, we shall be cautious how we estimate the innate mental capacity of a people by their actual mental development, as displayed, e g., by their culture. It is not safe to conclude that because a race, such as the Australian aborigines, is at a low level of culture it is therefore incapable of a higher; or that because it has no number beyond 5 it is wholly devoid of mathematical ability. As a matter of fact, the children of the aboriginal Australians are nearly, if not quite, as quick at figures as European children. And here let me draw attention to the danger of relying too implicitly on the reports of travellers respecting the mental capacity of primitive peoples. Without living a long time among a people and conversing with them in their own language, it is not possible to get any real knowledge of them. I have seen it recorded, e.g., that the Australians do not believe in a God; yet so far is this from the truth that a missionary who had lived for many years with an Australian tribe and had learnt their language tells me that they had no fewer than 80 gods, the names of whom they were able to recite from memory!

We should be equally cautious in our estimate of the capacity of extinct races. Judged by the crude, chipped [illegible] of polishing a stone implement." Yet it is now believed that the brain of Palæolithic man was, in size at least, equal to that of the modern European.

While it is admitted on all hands that Palæolithic man existed for tens of thousands of years, the evidence of the stone implements he has left behind him shows that during the whole of this long period he made very slight progress in culture. This is a striking fact, and the lesson to be learnt from it is that, lacking the necessary stimuli, mental capacity may for long ages remain dormant—unrealised. Granting that man has increased somewhat in mental capacity during the period of civilisation, I think we must conclude that the vast advance he has made in the industries and in knowledge generally has been due mainly to the fact that civilisation has provided conditions which have awakened dormant capacity, has, i.e., provided the required stimuli. If anyone is inclined to doubt this conclusion, let him consider the history of mechanical inventions. During the last few generations the output of inventions has exceeded that of man's entire previous career. This has obviously been due, not to any sudden increase in his inventive faculty, but to certain conditions which have tended to call out that faculty. Had James Watt lived in Palæolithic times, where would he have found the kettle to suggest the motor power of steam?

This question of unrealised mental possibilities is one of supreme interest. While it is certain that our primitive ancestors only realised themselves to a very limited extent, it is equally certain that modern man seldom, if ever, realises himself to the full: few are even given the opportunity of self-realisation, and those who are but rarely take

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[illegible] ridiculous.

[4] I ought to specify some particular grade of savage, since all savages are not on the same mental plane. The standard I have in my mind is that of the precibicultural Australian.

full advantage of it. The conditions of our civilisation are such that the majority of our social units are held to a narrow routine of activity, which is often uncongenial, if it is not actual drudgery.

Consider, too, how many men and women there are with splendid potentialities which are never realised through their not having been happily mated. The ideal society is one which gives to each of its units the fullest scope for self-realisation. Unfortunately there seems small prospect at present of such an ideal being even approximately attained.

How are we to account for this large fund of dormant mental power, for this apparent redundancy of mental endowment? The explanation probably lies in the fact that intelligent, as distinguished from purely instinctive, action implies educability, and a high order of intelligent action, a correspondingly high educability. While a stereotyped instinct suffices to adapt an organism to a simple stereotyped environment, it is wholly inadequate as an adaptive guide in respect of a complex and continually varying environment—one which is, so to speak, for ever presenting new problems for solution. Such an environment requires a mind which can store up experiences, and which (in the case of a being living under the complex conditions of mankind) can arrive at knowledge by reasoning. All this demands a supreme degree of educability—in other words, a high psychic potentiality.

Biological Evolution.

Biological evolution takes place by the continued selection through successive generations of favourable variations. Natural selection is without question equally essential to evolution, both morphological and mental, whether we suppose it to operate on mutations alone or on these and fluctuations also. Consider the mental evolution of man. It is manifest that there has been a progressive cerebral, and corresponding mental, development in the evolving human in all his stages, from the pre-human ape to the modern man. This has taken place by the sustained selection of those who have varied mentally in an upward direction. We may leave it to the expert to decide whether these favourable mental variations have been of the nature of mutations or fluctuations or both. One thing we may safely conclude, and that is that, considering the infinite complexity of cerebral structure, the evolving man could not have mounted from the ape to the completed man by a few leaps. Anthropological data suggest that it took at least a million years for the anthropoid to develop into homo sapiens, and that this has been effected by the accumulation through natural selection of an infinite number of successive improvements. Whether the selected variations are to be regarded as mutations or fluctuations matters little, so long as it is recognised that without natural selection mental evolution would not have been possible.[5]

In considering the influence of natural selection on mental evolution, it has to be remembered that in the case of the evolving man it has not merely been a struggle against starvation, against other animals, and against the inanimate forces of nature: it has largely been also a *struggle against the special conditions imposed by the evolving man himself*, and, as we shall see, it has been the stringent selection entailed by these conditions which has brought about man's phenomenal mental ascent.

Natural Selection still Stringently Operative on Man.

A common error, and one into which even leading biologists have fallen, is that natural selection has ceased, or all but ceased, to operate on man. We are continually being told that man has "cast off the yoke of natural selection" as though it were some fearful curse, the strangely ignored fact being that it is by the magic ladder of natural selection that he has climbed to his present pinnacle of excellence, and that without it it would be impossible for him to continue his psychic ascent. Thus Arthur Thomson rejoices in man's happy escape "from under the inexorable sway of natural selection," and comments sympathetically upon his revolt against its action, declaring that we can never again assume "the yoke of natural selection which even early man began to wriggle out of, which man has been more and more effectually throwing off as the ages have passed."[6]

Similarly Professor Ray Lankester asserts that man's mental qualities "have to a very large extent, if not entirely, cut him off from the general operation of that process of natural selection and survival of the fittest which up to their appearance had been the law of the living world"; and in another passage he refers to man as "emancipating himself from the destructive methods of natural selection."

It is true that man's revolt against natural selection has led to the survival of many who would otherwise have perished. But in so far as it has preserved inferior types it can hardly receive the commendation of the eugenist. It is, however, equally true that this vaunted revolt is far less effective than appears at first sight, and that over man, as over all living things, natural selection continues to exert its inexorable and, I would add, beneficent sway, and will continue to do so so long as man exists.

More than 20 years ago, in my work "The Causation of Disease," I pointed out that all deaths from other than purely accidental causes occurring before the termination of reproductive life are, biologically speaking, deaths of the unfit, since they result from an inability to cope with the environment (notably with pathogenic micro-organisms). They are thus instances of natural selection. The number of such deaths is, and always will be, great.

But even this does not put the case strongly enough It has to be remembered that every individual who leaves no offspring behind him is racially eliminated, and so far as the not leaving of offspring is due to personal peculiarity—such as sterility, desire among the married not to have children, neglect of children by their parents, indifference to marriage, lack of qualities in the woman which lead her to be sought or accepted in marriage—it implies the elimination of certain types.

In countries like our own, in which option is free, marriage is more potent to modify the race than in countries such as France, in which it is the usual custom for the parents to arrange the mating. Thus with us marriage must for a long time have been exerting a definite influence on type. On the whole, the better looking women have presumably been selected. It is certain that definite mental types have been selected, both in the case of the man and the woman, and that this has had a definite racial effect and is a genuine instance of natural selection. Here is a wide field for study.

The custom, now so rapidly extending, of restricting the number of births is having a definite effect upon race. The curtailment being greater among the upper classes than among the lower, the latter are the more prolific, and thus there is taking place a retrogressive selection of inferior mental types.

Ever since the first institution of tribal life, natural selection has been busily eliminating the morally defective. The extent to which this elimination is taking place at the present time is not adequately realised. How many cannot we all recall of those who have fallen out of the ranks! Drunkenness, debauchery, criminality, are laying their lethal hands upon the moral weaklings, and purging the race of them.

(To be continued.)

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[5] [illegible] those sequences in conceptual shorthand," and that in the last resort [illegible] and night, [illegible] at this: that [illegible] ot tell; that there is no logical ne [illegible] and two make four); [illegible] been other than exp [illegible] selection is, however, [illegible] not a mere description of sequences.

[6] Bible of Nature, p. 225.

GIFT OF RADIUM TO THE MIDDLESEX HOSPITAL.—Prince Alexander of Teck has received from Sir Charles W. Morrison-Bell a donation of £1000 for the purchase of radium for the Cancer Charity of the Middlesex Hospital.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

MEETING OF COMITIA.

A COMITIA was held on April 24th, Sir THOMAS BARLOW, Bart., K.C.V.O., the President, being in the chair.

The following gentlemen having passed the required examination were admitted as Members of the College:—James Leatham Birley, M.B. Oxon., L.R.C.P.; Joseph le Fleming Coy Burrow, M.B. Edin.; Gordon Ley, F.R.C.S., L.R.C.P.; Gustave Jean Philippe Monod, M.D. Paris; Charles Sheard, M.B. Toronto, L.R.C.P.; and Stanley Wyard, M.D. Lond.

Licences to practise physic were granted to 88 gentlemen who had passed the necessary examinations.

The following Members, nominated by the Council, were elected to the Fellowship:—John Oglethorpe Wakelin Barratt, M.D. Lond. (Liverpool); Edward Stainer, M.D. Oxon.; Henry Russell Andrews, M.D. Lond.; Francis Hugo Thiele, M.D. Lond.; William Philip Sutcliffe Branson, M.D. Cantab.; Walter Henry Maxwell Telling, M.D. Lond. (Leeds); Ernest Edward Glynn, M.D. Cantab. (Liverpool); Thomas Grainger Stewart, M.D. Edin.; John Brian Christopherson, M.D. Cantab. (Khartoum, Egypt); Alexander George Gibson, M.D. Oxon. (Oxford); Frederick Samuel Langmead, M.D. Lond.; Henry Roy Dean, M.D. Oxon. (Sheffield); Thomas Lewis, M.D. Lond.; Maurice Alan Cassidy, M.D. Cantab.; Charles Wilberforce Daniels, M.B. Cantab.; and James Mackenzie, M.D. Edin. Nominated by the Council under By-law LXXI. (*b*), and proposed to the College for election to the Fellowship:—Charles James Martin, M.B. Lond., F.R.S.

The following communications were received:—1. From the Secretary of the Royal College of Surgeons of England, reporting proceedings of the Council of the College on April 10th, 1913. 2. From Miss Ellen L. Wilks, dated March 26th, 1913, asking leave to have a carbon print made of the portrait of the late Sir Samuel Wilks, Bart., which he left to the College. Leave was granted. 3. From Mr. D'Arcy Power, F.R.C.S., dated April 3rd, 1913, asking leave, on behalf of the Section of History of Medicine of the Royal Society of Medicine, to photograph certain portraits of Harvey. Leave was granted.

An alteration was made in the regulation appended to By-law CXVII. whereby candidates for the Membership should be allowed three instead of four hours for each of the written parts of the examination.

Dr. S. J. Sharkey was re-elected the representative of the College upon the Senate of the University of London.

A report was received from Dr. A. E. Garrod concerning the Fourth International Congress on Physio-therapeutics recently held in Berlin.

A report was received and adopted from the Committee of Management, dated March [illegible] Blundell's School, Tiverton, [illegible] and Watford Grammar Sch[illegible] in [illegible] the Comitia.

THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE (1913).

SECTION OF MEDICINE.

THE Medical Section is under the presidency of Sir William Osler, Bart. The secretaries are Dr. John Cowan (Glasgow), Dr. [illegible] (Dublin), Dr. [illegible] cretary), Dr. H. [illegible] meetings of the section will be held at the Royal Society of Medicine, 1, Wimpole-street, W. The work of the section will comprise: (1) discussions; (2) selected papers; (3) a clinical museum; and (4) demonstrations of clinical apparatus, methods, &c.

The following discussions have been arranged:—August 7th: The Clinical Aspects of Hæmolysis. Reporters: Professor G. Banti (Florence) and Professor F. Widal (Paris). 8th: Correlations of the Organs of Internal Secretions and their Disturbances. (Jointly with Section II., Physiology.) Reporters: Professor E. Gley (Paris), Professor Dr. Baron Alex. von Koranyi (Budapest), and Professor Dr. F. Kraus (Berlin). [illegible] Dr. Biedl a[illegible] Dr. Meltze[illegible] have intimated their intention to take part in the discussion. 9th: The Pathology of Heart Failure. Reporters: Professor H. Vaquez (Paris) and Professor Dr. H. F. von Wenckebach (Strasburg). 11th: Diabetes. Reporters: Professor G. Dock (St. Louis, U.S.A.) and Professor Dr. Karl von Noorden (Vienna). 12th: Differentiation of the Diseases included under Chronic Arthritis. Reporters: Professor L. F. Barker (Baltimore, U.S.A.) and Professor Dr. Freidr. von Müller (Munich).

The afternoon sittings will be devoted to the reading and discussion of independent papers. Among many already promised the following may be mentioned.—Treatment of Leukæmia with Benzol (A. von Koranyi). Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax (Ch. Saugman). Insuffisances Pluriglandulaires (H. Claude, Paris). Der Augenblickliche Stand der Diagnosis der Pancreas-Erkrankungen (F. Wohlgemuth, Berlin). Chronic Bacterial Endocarditis, with a series of preparations illustrating the condition from the Pathological Museum, Mount Sinai Hospital, New York (E. Libman). The Recognition of the Status Lymphaticus in Adults (Haven Emerson, New York). Diagnosis and Treatment of Duodenal Ulcer (Max. Einhorn, New York). A Modified Form (?) of Sporadic Typhus, Brill's Disease (Brill, New York).

Demonstrations of clinical cases of special interest will be held in connexion with the morning and afternoon meetings of the section, and a strong committee has been formed to bring together the best available material for this purpose. Facilities will also be given to any member of the section who wishes to demonstrate any new clinical apparatus or clinical method. All applications should be addressed to the acting secretary, Dr. W. Pasteur, 4, Chandos-street, Cavendish-square, W.

The dinner of the Medical Section will be held at the Connaught Rooms, Great Queen-street, W.C., on Friday, August 8th. For information about the dinner members of congress are requested to apply to the secretary of the *dinner committee, Mr. George Bethell, 11, Chandos-street,* Cavendish-square, W.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 9013 births and 5052 deaths were registered during the week ended Saturday, April 26th. The annual rate of mortality in these towns, which had been 15·6, 15·2, and 15·8 per 1000 in the three preceding weeks, declined to 14·8 per 1000 in the week under notice. During the first four weeks of the current quarter the mean annual death-rate in these towns averaged 15·4, or 0·2 per 1000 below the corresponding rate in London. The death-rates *last week in the several towns ranged from* 5·0 in Tottenham, 5·2 in Southend-on-Sea, 6·6 in Ilford, 7·2 in Leyton, and 8·6 in Wallasey, to 19·4 in Dewsbury, 19·5 in Bootle, 20·3 in Middlesbrough, 21·9 in West Bromwich and in Stockton-on-Tees, 22·3 in Walsall, and 26·2 in St. Helens.

The 5052 deaths from all causes in the 96 towns were 363 *below the number in the previous week, and included* 338 which were referred to the principal epidemic diseases, against 394 and 412 in the two preceding weeks. Of these 338 deaths, 141 resulted from measles, 80 from whooping-cough, 56 from infantile diarrhœal diseases, 37 from diphtheria, 14 from scarlet fever, 9 from enteric fever, and 1 from small-pox. The mean annual death-rate from these diseases last week was equal to 1·0 per 1000, *against* 1·2 in each of the four preceding weeks. The deaths attributed to measles, which had been 215, 213, and 203 in the three preceding weeks, further declined to

141 last week, and caused the highest annual death-rates of 1·6 in Wolverhampton and in St. Helens, 1·7 in Hastings, 2·2 in Walsall, 2·3 in West Bromwich, and 2·6 in Bury. The deaths referred to whooping-cough, which had been 60, 50, and 74 in the three preceding weeks, further rose to 80 last week, and included 26 in London, 9 in Stoke-on-Trent, 4 in Leeds, and 3 each in Birmingham, in Salford, in Gateshead, and in Newcastle-on-Tyne. The fatal cases of diarrhœa and enteritis (among infants under 2 years of age), which had been 53, 63, and 65 in the three preceding weeks, declined to 56 last week; 23 deaths were registered in London and 2 each in Wolverhampton, Leicester, Liverpool, Manchester, Preston, Leeds, and Middlesbrough. The deaths attributed to diphtheria, which had been 35, 36, and 41 in the three preceding weeks, were 37 last week; 6 deaths were recorded in Portsmouth, 4 in London, 4 in Leeds, 3 in Leicester, 2 in Liverpool, 2 in Manchester, and 2 in Bradford. The deaths deaths referred to scarlet fever, which had been 23, 19, and 17 in the three preceding weeks, further fell to 14 last week, of which number 4 occurred in London, 2 in Birmingham, and 2 in Liverpool. The fatal cases of enteric fever, which had been 16, 13, and 12 in the three preceding weeks, further fell to 9 last week, and included 2 in Gateshead. The death from small-pox occurred in Liverpool.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily declined from 2112 to 1334 in the 17 preceding weeks, slightly rose to 1339 at the end of last week; 185 new cases were admitted during the week, against 167, 148, and 215 in the three preceding weeks. These hospitals also contained on Saturday last 824 cases of diphtheria, 695 of measles, 293 of whooping-cough, and 36 of enteric fever, but not one of small-pox. The 1285 deaths from all causes in London were 139 fewer than the number in the previous week, and were equal to an annual death-rate of 14·8 per 1000, coinciding with the rate in the aggregate of the 96 towns. The deaths referred to diseases of the respiratory system, which had been 346, 285, and 329 in the three preceding weeks, fell to 245 last week, but were 22 in excess of the number recorded in the corresponding week of last year. The fatal cases of influenza numbered 32, against 45 and 28 in the two preceding weeks.

Of the 5052 deaths from all causes in the 96 towns, 188 resulted from different forms of violence, and 395 were the subject of coroners' inquests. The causes of 38, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in its 14 suburban districts, in Manchester, Leeds, Bristol, Bradford, Hull, Nottingham, and in 57 other smaller towns. Of the 38 uncertified causes of death last week, 7 were registered in Liverpool, 6 in Birmingham, 4 in St. Helens, 3 in Bootle, 3 in Preston, and 2 in South Shields.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1265 births and 768 deaths were registered during the week ended Saturday, April 19th. The annual rate of mortality in these towns, which had been 17·2 in each of the three preceding weeks, rose to 17·7 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these Scotch towns averaged 19·1, against a corresponding rate of 16·9 per 1000 in the 96 large English towns. Among the several towns the death-rates during the week ranged from 9·0 in Kilmarnock, 10·8 in Hamilton, and 13·4 in Clydebank, to 21·4 in Ayr, 21·7 in Dundee, and 26·7 in Perth.

The 768 deaths from all causes were 22 in excess of the number in the previous week, and included 72 which were referred to the principal epidemic diseases, against 75 and 83 in the two preceding weeks. Of these 72 deaths, 39 resulted from whooping-cough, 13 from measles, 9 from infantile diarrhœal diseases, 8 from diphtheria, 2 from enteric fever, and 1 from scarlet fever, but not one from small-pox. These 72 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·7 per 1000, against 1·2 in the 96 large English towns. The deaths attributed to whooping-cough, which had been 44, 43, and 44 in the three preceding weeks, declined to 39, and comprised 23 in Glasgow, 8 in Edinburgh, 3 in Leith, 3 in Greenock, and 2 in Motherwell. The deaths referred to measles, which had been 9, 8, and 13 in the three preceding weeks, were again 13 in the week under notice, and included 8 in Glasgow and 3 in Aberdeen. The fatal cases of diarrhœa and enteritis (among infants under 2 years of age), which had declined from 18 to 11 in the four preceding weeks, further fell to 9, of which number 6 were registered in Glasgow. Of the 8 deaths attributed to diphtheria, which showed but slight variation from recent weekly numbers, 2 occurred in Glasgow and 2 in Dundee. The 2 deaths referred to enteric fever and the fatal case of scarlet fever were recorded in Glasgow.

The deaths referred to diseases of the respiratory system, which had steadily declined from 166 to 117 in the four preceding weeks, rose to 153 in the week under review; 31 deaths were attributed to different forms of violence, against 27 and 31 in the two preceding weeks.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1283 births and 751 deaths were registered during the week ended Saturday, April 26th. The annual rate of mortality in these towns, which had been 17·2, 17·2, and 17·7 per 1000 in the three preceding weeks, declined to 17·3 per 1000 in the week under notice. During the first four weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 17·4, against 15·4 per 1000 in the 96 large English towns during the same period. Among the several towns the annual death-rates last week ranged from 7·4 in Perth, 10·8 in Coatbridge and in Hamilton, and 11·0 in Clydebank, to 19·0 in Glasgow, 21·4 in Ayr, and 23·8 in Paisley.

The 751 deaths from all causes were 17 below the number in the previous week, and included 76 which were referred to the principal epidemic diseases, against 83 and 72 in the two preceding weeks. Of these 76 deaths, 34 resulted from whooping-cough, 18 from measles, 16 from infantile diarrhœal diseases, 3 from scarlet fever, 3 from diphtheria, and 2 from enteric fever, but not one from small-pox. These 76 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8, against 1·0 per 1000 in the 96 large English towns. The deaths attributed to whooping-cough, which had been 43, 44, and 39 in the three preceding weeks, declined to 34 last week, and included 18 in Glasgow, 3 in Edinburgh, 3 in Paisley, 3 in Motherwell, and 2 in Greenock. The deaths referred to measles, which had been 8, 13, and 13 in the three preceding weeks, further rose to 18 last week, and comprised 9 in Aberdeen, 8 in Glasgow, and 1 in Falkirk. The fatal cases of diarrhœa and enteritis (among infants under 2 years of age), which had declined from 18 to 9 in the five preceding weeks, rose to 16 last week, of which number 9 were recorded in Glasgow and 3 in Dundee. Of the 3 deaths attributed to scarlet fever, which showed but slight variation from recent weekly numbers, 2 occurred in Glasgow and 1 in Dundee. The deaths referred to diphtheria, which had been 6, 9, and 8 in the three preceding weeks, declined to 3 last week, and comprised 2 in Glasgow and 1 in Kirkcaldy. The 2 fatal cases of enteric fever were recorded in Glasgow and Dundee respectively.

The deaths referred to diseases of the respiratory system, which had been 127, 117, and 153 in the three preceding weeks, declined to 119 in the week under notice; 34 deaths resulted from various forms of violence, against 31 in each of the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 673 births and 491 deaths were registered during the week ended Saturday, April 26th. The annual rate of mortality in these towns, which had been 23·3, 22·5, and 20·9 per 1000 in the three preceding weeks, rose to 21·3 per 1000 in the week under notice. During the first four weeks of the current quarter the mean annual death-rate in these Irish towns averaged 22·0 per 1000; in the 96 large English towns the corresponding rate did not exceed 15·4, while in the 16 Scotch towns it was equal to 17·4 per 1000. The annual death-rate last week was equal to 24·5 in Dublin (against 14·8 in London and 19·0 in Glasgow), 20·4 in Belfast, 23·8 in Cork, 17·8 in Londonderry, 16·2 in

Limerick, and 17 1 in Waterford, while in the remaining 21 smaller towns the mean death rate did not exceed 18 5 per 1000

The 491 deaths from all causes in the 27 Irish towns were 10 in excess of the number in the previous week, and included 24 which were referred to the principal epidemic diseases, against 37 and 42 in the two preceding weeks Of these 24 deaths, 7 resulted from infantile diarrhœal diseases, 6 from whooping cough, 5 from measles, 3 from scarlet fever, 2 from diphtheria, and one from enteric fever, but not one from small pox These 24 deaths from the principal epidemic diseases were equal to an annual death rate of 1 0 per 1000, which coincided with the rate from these diseases in the 96 large English towns, while the corresponding rate in the 16 Scotch towns last week rose to 1 8 per 1000 The deaths of infants (under 2 years of age) attributed to diarrhœa and enteritis, which had been 11, 10, and 10 in the three preceding weeks, declined to 7 last week, of which number 5 were recorded in Dublin The deaths referred to whooping cough, which had been 5, 3 and 6 in the three preceding weeks, were again 6 last week and comprised 2 each in Dublin, in Belfast, and in Waterford The fatal cases of measles, which had been 14, 14, and 18 in the three preceding weeks, declined to 5 last week, of which number 3 were recorded in Wexford The 3 deaths attributed to scarlet fever, 2 of which occurred *in Belfast* and *1 in Dublin*, were equal to the average in the four preceding weeks The 2 fatal cases of diphtheria were registered in Dublin and Belfast respectively, and that of enteric fever in Kilkenny

The deaths referred to diseases of the respiratory system, which had been 142, 109 and 92 in the three preceding weeks slightly rose to 97 in the week under notice Of the 491 deaths from all causes 151, or 31 per cent, occurred in public institutions, and 11 resulted from different forms of violence The causes of 26, or 5 3 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, in the 96 large English towns the proportion of uncertified causes of death last week was 0 8 per cent

THE SERVICES

ROYAL NAVY MEDICAL SERVICE

THE following appointments have been notified —Fleet Surgeons J L H Phillips to the *Superb* on recommissioning, and S T Reid to the *Goliath*, on becoming parent ship Staff Surgeon R S Osborne to the *Hermes* on commissioning Surgeons *W W D Chilcott to the Superb* on recommissioning, and A S Paterson to the *Goliath*, on becoming parent ship

ROYAL ARMY MEDICAL CORPS

Captain Daniel L Harding to be Major (dated April 26th, 1913)

Colonel R Kirkpatrick, C M G has taken up duty as Assistant Director of Medical Services to the Abbottabad and Sialkot Brigades of the Second (Rawal Pindi) Division

Lieutenant Colonel H J Fletcher has been transferred from Sialkot to Rawal Pindi Cantonment Lieutenant-Colonel S Hickson has been selected for appointment as Honorary Surgeon to His Majesty the King Lieutenant Colonel J Thomson ha [illegible] tour expired Lieutenant C [illegible] aken over charge of the Mili [illegible] nant Colonel G D Hunter D S O, has been placed under orders for service abroad Lieutenant Colonel I R Newland has been appointed Senior Medical Officer of the South Eastern Coast Defences Lieutenant Colonel H M Sloggett has arrived home for duty from Malta Lieutenant-Colonel T B Winter has taken up duty *pro tem* as Officiating Assistant Director of Medical Services to the Colchester District Lieutenant-Colonel G H Barefoot has been appointed to the London District Lieutenant Colonel W C Beevor, C M G has been appointed to hold charge of the King George V Military Hospital at Arbor Hill Dublin

Major N J C Rutherford has arrived home for duty from South Africa Major T E Fielding has been transferred *from the London District to the Southern Command* Major H A Hinge has been appointed in charge of the Surgical Division of the Cambridge Hospital at Aldershot Major H E Staddon has embarked for a tour of duty in India Major D Lawson holds himself in readiness for service abroad Major N Faichnie has been transferred from Delhi Cantonment to Meerut Major B B Burke has arrived home from the Sierra Leone Protectorate Major E W Siberry [illegible] Medical Officer in the London [illegible] Silver has been appointed [illegible] nden, Queenstown Harbour Major J P J Murphy has been transferred from Cape Town to Potchefstroom Major J D Alexander has been appointed to officiate in Command of the Military Hospital at Ranikhet Cantonment Major J B Anderson has taken up duty as Embarkation M [illegible] Fitz G G Fitzgerald [illegible] charge of the Duke of [illegible] Major F Harvey has been appointed to hold charge of the Military Hospital at Leeds Major R S H Fuhr, D S O, has been selected for duty at the Royal Arsenal, Woolwich Major E T Inkson, V C, has been transferred from the Military Hospital at Bangalore to Wellington Cantonment Major I M Mangin *has embarked for service in India* Major E B Steele has been transferred from the London District to Exeter Major W J Taylor has taken over charge of the *Military Hospital at Tower Hill, Sierra Leone* Protectorate Major O J O Gorman has been granted six months' leave of absence home from Calcutta on medical certificate Major J Poe has been appointed to the Eastern Command Major C H Furnivall has taken up duty at the *Military Hospital, Karachi on transfer from the Fourth* (Quetta) Division Major W L Bennett, on return home from a tour of service at Bermuda, has been appointed to Pontefract Major A H McN Mitchell has been transferred from the Royal Victoria Hospital at Netley to Dover Major S F St D Gr [illegible] Families Hospi [illegible] of Women and [illegible] taken up duty as *Specialist in Ophthalmology to the Ninth* (Secunderabad) Division of the Southern Army in India Major E W Bliss has been appointed Specialist in Operative Surgery to the Fourth (Quetta) Division

Captain A M Bennett has been appointed Staff Surgeon at Mhow Captain E J Kavanagh has taken up duty in the Eastern Command Captain J James has arrived home from South Africa Captain V C Honeybourne has been appointed to the Irish Command Captain D P Watson has been appointed Clinical Pathologist at the Queen Alexandra Military Hospital Captain J A W Webster has been placed under orders for service abroad Captain D S Buist has taken up duty with the Egyptian Army Captain H B *Connell has arrived home for duty from* the Sierra Leone Protectorate Captain J James has been appointed to the Eastern Command Captain A G Wells has taken up duty as Specialist in Operative Surgery to the Lahore Division Captain B Johnson has been granted six months' leave of absence from India Captain P A Lloyd Jones has been transferred to the Aldershot Command Captain A S Williams has been appointed to the Irish Command Captain J H Gurley has taken up duty at the Royal Victoria Hospital at *Netley* Captain *A Dawson* has arrived home for duty from India Captain A C Vidal has been appointed to the Aldershot Command Captain E W M Paine has arrived home for duty from Calicut Captain H P Hart has been appointed to Wellington Cantonment Captain C Kelly has taken up duty at Woolwich Captain A W A Irwin has been placed under orders for duty in the Cork District Captain G I Dawson has taken up duty as Specialist in Electrical Science and Radiography to the Meerut *Division Captain* A M Pollard has arrived home from South Africa Captain F D G Howell has arrived home for duty from Lahore Captain R F O T Dickinson has been transferred from the Military Hospital at Delhi Cantonment to Bareilly Captain A H Bond has taken up duty at Limerick on transfer from Queenstown Captain T W O Sexton has arrived home for duty from Wynberg Captain A S Littlejohns has taken up duty in the Dublin District on expiration of leave of absence Captain A H Jacob *has joined at Dublin, on* transfer from the Curragh Camp Captain G H Stevenson has arrived home for duty from Ambala Cantonment

Indian Medical Service.

Colonel P. Hehir has been granted six months' leave of absence home from India.

Lieutenant-Colonel S. Browning Smith has been selected to officiate as Sanitary Commissioner in the Punjab, in succession to Lieutenant-Colonel E. Wilkinson, granted leave of absence. Lieutenant-Colonel W. [illegible] appointed a Member of the Bombay [illegible] Lieutenant-Colonel L. F. Childe, resigned. Lieutenant-Colonel J. J. Pratt has been appointed Lecturer on Tropical Diseases at the Westminster Hospital. Lieutenant-Colonel C. Duer has been granted an extension of leave of absence home from India for six months. Lieutenant-Colonel B. H. Deare has taken up duty as Principal and Professor of Medicine at the Government Medical College, Calcutta, during the absence on leave of Lieutenant-Colonel J. T. Calvert. Lieutenant-Colonel A. Colman has been appointed to Rawal Pindi as Civil Surgeon. Lieutenant-Colonel L. F. Childe has arrived home on leave of absence from India.

Major A. G. McKendrick has been granted two years' leave of absence home from India. Major McCarrison has been placed on special duty under the Director-General. Major W. Selby, D.S.O., has been appointed Professor of Surgery on the staff of King George's Medical College at Lucknow. Major T. Hunter has been granted nine and a half months' leave of absence home from India. Major D. McCay has been appointed Professor of Materia Medica at the Government Medical College, Calcutta, and Second Physician to the College Hospital, in succession to Lieutenant-Colonel B. H. Deare. Major S. R. Godkin has been appointed Specialist in Operative Surgery to the Ninth (Secunderabad) Division of the Southern Army. Major A. B. Fry has been granted seven months' leave of absence home from India.

Captain J. W. S. Babington has been selected for appointment as Specialist in Ophthalmology. Captain R. S. Kennedy has been appointed Medical Officer to the North-Eastern Frontier Military Police. Captain A. C. Munro has been appointed to the Substantive Medical Charge of the 128th Regiment of Pioneers, in succession to Captain W. J. Fraser. Captain W. L. Forsyth has joined the Madras Jail Department for a course of training.

Territorial Force.

Royal Army Medical Corps.

6th London Field Ambulance, Royal Army Medical Corps: Major (Honorary Major in the Army) William M. O'Connor to be Lieutenant-Colonel (dated March 31st, 1913).

Colonel Seely and the Health of the Soldier.

Colonel Seely, who attended a meeting at the Royal Army Medical College, Grosvenor-road, London, S.W., on April 29th, when the prizes were distributed to the successful students for the special course last session, paid a well-deserved tribute to the work of the Army Medical Service. The good results were due in a great measure, he said, to coöperation of the ablest minds in the civilian medical profession, who had worked for the common good of the army and of the Empire. There had been a rapid and continuous improvement in the health of the soldiers, and the change since the South African war had been astonishing. The army was now a place where disease was comparatively rare. A higher standard of physical strength in the British soldier had been attained, enabling him to withstand disease in peace and war. Physical training of the young should receive more attention than was at present bestowed upon it.

Medical Sickness and Accident Society.—The usual monthly meeting of the executive committee of this society was held at 429, Strand, London, W.C., on April 18th, Dr. F. J. Allan in the chair. The claim account for the quarter ending March 31st was presented and showed that the epidemic of influenza had bee[illegible] the medical profession as among the [illegible] new business during that period was well up to the average, and the appeal made by the chairman at the annual meeting to members to make the advantages of the society known to their colleagues had already stimulated inquiries. Information can be obtained from the secretary, Mr. B. Sutton, 33, Chancery-lane, W.C.

Correspondence.

"Audi alteram partem."

THE ROYAL MEDICAL FOUNDATION OF EPSOM COLLEGE AND THE ROYAL MEDICAL BENEVOLENT FUND.

To the Editor of The Lancet.

Sir,—The good work which is being carried out by the Royal Medical Benevolent Fund is deserving of generous recognition, and I trust that the leading article in your issue of April 26th, setting forth the claims of that fund, will bear fruit with the profession and the public. But as treasurer of the Royal Medical Foundation of Epsom College I feel it to be my duty to draw attention to one statement in that otherwise excellent article which is open to misconstruction and may give rise to the impression that the Royal Medical Benevolent Fund is the only organised agency for rendering assistance to the necessitous members of the medical profession.

The statement to which I refer is the following: "What we want to bring home to our readers, and through them to the public, is that in many cases a medical man through no fault of his own, and his dependents certainly through no fault of theirs, fall into absolute penury, in which plight *nothing may stand between the* [illegible] *such grants as the Royal Medical* [illegible] *or that private benevolence may supply.*" (The italics are mine.)

You, Sir, will recall the fact that the Epsom College Foundation gives annuities of £30 each to 50 aged members, or widows of members, of the medical profession, and provides a first-class education, together with clothing and maintenance, for 50 necessitous sons of medical men. A sum of close upon £4500 has to be collected annually in donations and subscriptions to [illegible] urgent objects. It is for fear that [illegible] decrease that I would ask you to permit me to remind your readers of the necessity for them.

In the article mentioned above you refer to the summaries that are published in The Lancet from month to month with reference to the cases which the committee of the fund is able to relieve; but the pensions and foundation scholarships provided by the College, as well as a large number of pensions which are paid out of special endowments, are awarded without any notification in the medical press beyond the official announcement issued *after* the annual general meeting.—I am, Sir, yours faithfully,

Henry Morris, Honorary Treasurer.

8, Cavendish-square, W., April 26th, 1913.

WHEN TO OPERATE IN APPENDICITIS.

To the Editor of The Lancet.

Sir,—The energetic and forceful contributions by Mr. Edmund Owen to the columns of The Lancet on appendicitis and its treatment by immediate operation should do much to impress the advisability of this procedure on hesitating members of the profession. He has placed facts before us with remarkable and characteristic lucidity; few will try to controvert them. It is unnecessary to recapitulate the circumstances which gave rise to the discussion at the Medical Society of London on this treatment. Now that the main contention has been permitted to exert its full influence, it may be well to put forward some points which are not without their interest and importance when this subject is under consideration. If this is not done it may be thought that Mr. Owen has made a new discovery—that we are far behind the age as regards the treatment of this disease and have learnt little from the wealth of material which has passed through our hands during the last few years. The advisability of early operation was long ago demonstrated by American surgeons and recognised in this country by those brought most frequently into contact with this disease. It is true that, for a time, operation in the quiet period was put forward as the safe treatment, but increasing experience showed that, although operation was safe then, it was much better to get rid of the diseased appendix before it had had power to do much harm.

[illegible] advocated early [illegible] e contributions [illegible] who brought forward statistics from many sources, including some of the principal continental clinics. Early removal has also been urged in "Diseases of the Vermiform Appendix and their Complications,"[1] whilst in 1911 I read a paper before the Wimbledon Medical Society on the same subject.[2] It is the only plan of treatment in a majority of the cases, for we cannot expect everyone to possess the knowledge which will enable him to differentiate the more dangerous types from those which will run a mild course and subside without surgical interference. Those who do not operate frequently, still less those who never see an operation, cannot form an opinion as to the morbid processes in the appendix which led to the symptoms and local signs present in the case. These men are in the position which we all occupied some years ago before the disease became so common. They recognise that the patient has appendicitis, and that is all that concerns them.

Most surgeons have for years, I venture to say, examined the appendix thoroughly after removal, and made a note of the result of this examination after the diseased structure has been opened up. To say that an appendix is gangrenous, or that it has perforated, is not enough; we want to know what causes the gangrene so frequently found in acute attacks, for it may depend on many things. To publish a series of cases of the early and successful removal of so many scores of acutely diseased appendices does not do more at the stage at which we have arrived regarding appendicitis than confirm our statement that early removal is the most satisfactory treatment. The larger the number of the cases and the better the results, the more satisfied are we that this is the right thing; but to say that the lives of all of them would have been lost had this method not been employed is incorrect, and surely to tell many patients that they will die unless they submit to immediate operation is wrong. It has frequently been proved to be so. Furthermore, I would add that an attempt to recommend operation indiscriminately without any endeavour to differentiate between the varieties and potentialities of the morbid processes causing the acute attack does not lead to the advancement of our clinical knowledge or to the credit of the profession. Time after time a case is seen in which the question arises, Must operation be done at once? for there are many reasons why it should be postponed unless it is imperative.

There never was a time when the general practitioner was so well educated or so well fitted to deal with abdominal emergencies. It is even possible that he may sometimes be too eager to exercise his skill. There is a growing reluctance to call in a doctor who always operates at once, because the idea prevails that if the patient has a stomach-ache, whether due to indigestion, constipation, influenza, or other common cause, the doctor will want to open the patient up. This is a great pity, because it leads to loss of valuable time in really grave attacks, for the friends wait to see if the child will not improve.

Contrary to the opinion of Mr. Owen, I believe that many practitioners can give quite correct opinions as to the course of a particular attack, whilst surgical consultants can speak with considerable accuracy as to the nature of the process which has commenced in the appendix. We have had much experience during the past 20 years derived from constant observation and practice, whilst those in general work have been better instructed in the varying phases of the disease. Far more of the urgent cases are sent to the hospitals within the first 24 hours of illness than was formerly the case, the appreciation of the clinical condition is made earlier, and the operation is done as soon as possible in most institutions. In spite of this the supply of patients applying for operation in the quiet interval shows little diminution. Appendicitis is a septic disease, and will always be dangerous to the individual affected because of the nature of the membrane by which the organ is surrounded and the position which it occupies. There are also many types according to the primary cause of the attack, its extent, the history of previous attacks, the age, sex, and power of resistance of the individual.

Experience will give the skill to say what is going on in the appendix, and long and constant observation has already given it to many. It is essentially a practical knowledge and cannot be gained simply by reading symptoms in a book. Those who have it are justified in permitting a departure from what should be the recognised rule of treatment—early removal of an appendix which is giving signs of disease.

A consideration of some of the side issues raised by the discussion at the Medical Society and by the correspondence in THE LANCET cannot be satisfactorily undertaken in any journal, however generous the editor might be in affording the hospitality of its columns.

I am, Sir, yours faithfully,
London April 25th, 1913. WILLIAM H. BATTLE.

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[1] Battle and Corner: Constable and Co.

[2] Clinical Journal, January, 1912.

INSANITY AND DIVORCE.

To the Editor of THE LANCET.

SIR,—It is immaterial what the exact wording of the recommendations of the Royal Commissioners on Divorce may be; what I object to is the principle, as stated by "E. A. A.," that "incurable (?) insanity should form a ground for divorce after five years' confinement," even when safeguarded by the opinion of two experts. There are a large number of cases on record in which recovery has taken place after five or more years' detention in an asylum, who were at the expiry of the proposed term apparently incurable. Expert evidence is not always infallible, and, to say the least of it, is at times contradictory.

I admit that cases occasionally arise in which curable or incurable insanity may be a great hardship, but in my experience these have almost invariably been cases in which previous attacks of insanity have been wilfully concealed. This, I think, is a perfectly legitimate ground for divorce. "E. A. A." has not, however, criticised my chief objection to the Royal Commissioners' report—viz., "Why should insanity be pilloried as a ground for divorce more than any other form of incurable illness, which is not directly due to evil living." I am, Sir, yours faithfully,

J. BATTY TUKE, jnr., M.D.
New Saughton Hall, Polton, April 26th, 1913.

INTRACRANIAL COMPLICATIONS OF MIDDLE-EAR DISEASE.

To the Editor of THE LANCET.

SIR,—I have read with very great interest the article by Mr. Hunter F. Tod, in THE LANCET of April 19th, on Extradural Abscess at the Apex of the Petrous Bone.

Let me say at once, I am not an aurist and lay no claim to knowledge on that subject except in so far as relates to intracranial disease. Without criticism, and in an inquiring spirit simply, I wish to ask Mr. Tod if, in his experience, the commencing statement he writes is undeniable—viz., "*An extradural abscess is the most frequent complication of acute inflammation of the mastoid process, being due to direct extension of the infective process through the bone to the outer surface of the dura mater, and is almost invariably found in the region of the tegmen tympani or of the lateral sinus, the latter being most frequent.*" Being a disciple of [illegible] on the "P[illegible] Cord," for [illegible] (I hope) an interested *observer of all surgical brain cases*, I am naturally influenced by such causes, and wish to state simply and briefly my experience of intracranial suppuration and an easy way of grouping complications. Geometrically considered there are six simple directions in which infective spread may occur from the middle ear—namely, (1) backwards, (2) forwards, (3) upwards, (4) downwards, (5) outwards, and (6) inwards.

1. Backward spread is the most important, leading to infection, *viâ* the iter, of the mastoid antrum, followed by rapid sepsis of the communicating cancellated bone and the horizontal and vertical mastoid cells. The mastoid bone is made up of spongy tissue, and its infections are really in the nature of osteomyelitis. Further backward spread involves, first, the space around the sigmoid portion of the lateral sinus; next the sinus itself (infective sinus thrombosis); then the membranes, causing extradural abscess or meningitis; or, lastly, the meninges in relation to the cerebellum under the

tentorium may rapidly become "soldered" by inflammation (Macewen) conveying the sepsis through it directly to the cortex, resulting in cerebellar abscess.

2. Forward spread means repeated attacks of sore-throat from pus travelling down the Eustachian tube, or in rarer cases infection of the temporo-maxillary articulation.

3. Upward spread through the tegmen tympani or tegmen antri results nearly always in "soldering" of the membranes which are closely in contact with the bone by the temporo-sphenoidal lobe of the cerebrum lying over and pressing on it, and thus almost direct extension into the brain with temporo-sphenoidal abscess results. There is here technically an extra- and intra-dural inflammation, but practically an abscess of the brain. Meningitis with pus formation from this mode of spread is thus extremely uncommon.

4. Downward spread of the infection, involving the vertical cells of the mastoid, in cases where a foramen exists on the deep side of the process, results in Bezold's mastoiditis or suppuration in the posterior triangle of the neck, the pus following the origin of the posterior belly of the digastric muscle.

5. Outward extension is by far the least serious, resulting in a so-called "periostitis" under the temporal fascia, with characteristic downward and forward displacement of the auricle. This form of disease is especially common in children in whom the petro-squamosal suture is open, and accounts for the lesser seriousness of mastoiditis, this suture at times opening directly into the antrum and exercising a safety-valve effect on pus formation.

6. Lastly, inward extension is characteristic. Here the facial nerve may be pressed on or ulcerated, the middle ear may be destroyed, or the internal auditory meatus involved. In the latter case the brain itself is not first reached, but sepsis implicates the glove-like sheath of membranes containing cerebro-spinal fluid, nerves and vessels, and spreads in the subarachnoid space; thus typical acute lepto-meningitis will follow, and not brain abscess.

My interest in Mr. Tod's case leads me to hope that he may set down his views on this important subject.

I am, Sir, yours faithfully,
SPENCER MORT, M.B., Ch.B. Glasg.

Edmonton Infirmary, April 23rd, 1913.

IODOFORM INJECTIONS IN PULMONARY TUBERCULOSIS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 12th there is a letter by Dr. E. Curtin, of Bournemouth, giving his experience of the value of intravenous injections of iodoform in pulmonary tuberculosis. Dr. J. Bain, of South Shields, and Dr. Mervyn Crofton, of University College, Dublin, have, in the *Glasgow Medical Journal*, 1909, and the *British Medical Journal*, 1912, recorded similar experiences. I shall be very much indebted to any readers of THE LANCET if they will kindly furnish me with references to other publications, or personal experiences of the method, with details of the cases in which iodoform failed and in which it succeeded.

I am, Sir, yours faithfully,
THOMAS W. DEWAR.

Kincairn, Dunblane, N.B., April 26th, 1913.

*** The subject of iodoform injections in pulmonary tuberculosis was discussed at a recent meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland, reported on p. 1244 of our present issue.—ED. L.

THE MILWARD FUND.

To the Editor of THE LANCET.

SIR,—May we venture to draw the attention of your readers to the above fund? William Courtenay Milward died quite suddenly at Cardiff on April 9th, aged 41. Practically no one knew that he was ill. He has left a widow and three young boys, and they are almost without means.

For the last year and more Milward, as the senior secretary of the Cardiff division of the British Medical Association, and in other capacities, has worked enormously hard for the local profession, and undoubtedly this extra work helped to bring about his death. The fund will be administered as a trust for the benefit of the dependents. It is already nearly £600, besides a number of promises of so much a year for five years. This has almost all been obtained locally. It is possible that there may be some in a wider professional circle who would like to contribute—some who knew Milward, others who sympathise with the circumstances of his death. Hence this letter. Any further particulars may be obtained from, and contributions will be gratefully received by, us. We are, Sir, yours faithfully,

WILLIAM SHEEN,
2, St. Andrew's-crescent, Cardiff (honorary treasurer).
A. L. THORNLEY,
18, Windsor-place, Cardiff (honorary secretary).

April 29th, 1913.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—The following note may be of interest to your readers as throwing a sidelight on the working of the National Insurance Act in this district. I may first mention that the nearest town to this village is eight miles distant, and that I am not on a panel.

Towards the end of November last a patient of mine in the village—an insured person and the secretary of an Approved Society—sustained a transverse fracture of the patella. When Jan. 15th approached he decided to wait, at any rate until I was finished with his case, before sending in his name for acceptance by a panel doctor in the nearest town. At the beginning of February I told him I would require, about the end of the month, a Middlesex splint for his use for some months.

The question naturally arose as to whether he was to provide the splint, at a cost to himself of 45*s*. to 65*s*., or ask to have it granted by the Insurance Committee in virtue of the fact that he was entitled to it in terms of the Act. I advised him to write to the Insurance Committee stating the whole circumstances of the case, with particular reference to the date of the accident. Back came a reply to the effect that the Commissioners for Scotland had been consulted and that they had refused to sanction the provision of this very necessary appliance unless it was ordered by a panel doctor.

I am, Sir, yours faithfully,
JOHN J. ROBERTSON, M.B.

Portpatrick, Wigtownshire, April 29th, 1913.

THE POSITION OF ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

To the Editor of THE LANCET.

SIR,—Anything written by Dr. Robert Jones on asylums must command every attention and respect. Everybody who knows anything about these institutions is aware of the position he occupies and the great authority with which he speaks. While not denying the successes attained by men working under such an eminent psychiatrist, might I respectfully point out that the promotions in asylum work achieved by his assistants and those of his distinguished *confrère*, naturally leave rather little for those outside their charmed circle. To return, however, to my original contention about the suitability of asylum experience as a preparation for general practice, Dr. Jones gives a list of 12 operations altogether performed in his asylum in 12 months. He has six assistants. If they did them all it would be two apiece. Surely they would on this count have better opportunities in institutions entirely reserved for the physically ill. As regards studying for the M.D. and F.R.C.S., might I ask what then becomes of the study of psychiatry? It would be a great testimonial to any assistant to base his knowledge of psychiatry on the knowledge required for these qualifications, but if he goes into the service to get leisure to read for them, and rushes out of it again when he gets them, what can any reasonable man conjecture? Under the stimulus of specialists like Dr. Jones men may do many things, but even in spite of his great inspiration it must be a work of much difficulty, withdrawn as they are from the general hospitals and schools. Would it not be better to face the fact that asylum work is special work in itself, requiring a very special temperament and training, and make a service of it that the average man could go into feeling he would get reasonable advancement for his work and increasing knowledge of his specialty, and not spend his time trifling with allied subjects or games until chance or other circumstances, often remote from his ability, get him on.

I am, Sir, yours faithfully,
April 28th, 1913. REFORM.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 1207.*)

VIII.—THE SCOTTISH MINERS AND THE ACT.

Bothwell as a Mining Centre.

BOTHWELL is close to Glasgow, and is the centre of the neighbouring mining industries. It is in the county of Lanark where there are many coal pits, so this is a good place to ascertain how the Insurance Act is affecting the miners and their medical attendants. Before the Act every adult miner, whether married or single, paid 6*d.* per fortnight, or 13*s.* a year, for medical attendance and medicine for himself and his family. Their medical attendants were known as the colliery and public works surgeons—a somewhat misleading title, because they are not attached to public works but to pits and various other works belonging to private companies and owners. It was these owners who appointed the "works doctor," as he is colloquially called. Thus a pit employing, for instance, 600 adult miners, from whose wages 13*s.* per head was deducted annually for medical attendance, meant a medical living, if I may use the clerical term, of £390 a year.

Practice and Patronage.

From the point of view of the progress of science, was it a good thing that colliery owners or managers of great works should have the power of thus conferring livings, some fat, some lean, on members of the medical profession? Were those who exercised this very important patronage competent judges? A good many persons thought that here we had a very serious abuse, and now the National Insurance Act has swept it all away. To-day no such patronage is possible. The practitioner who was the special favourite of the factory or mine owner must put his name on the panel, take his chance with all the other practitioners, and if he has many patients it is because he is popular among the workers, among those who are to be his patients rather than among their employers. This in itself is quite a revolution. One among those who must have been a loser under the new *regime* nevertheless remarked to me that the change was not altogether a bad thing, though the sufferers naturally did not like it.

Every practitioner in Lanarkshire is on the panel, and the works doctors, who previously had a secure income, dependent, of course, upon patronage, now hardly know how they stand. Formerly, and wherever he might live, the miner had to go to the practitioner attached to his pit. As the miners were not all able to get house accommodation close to the colliery where they worked, the works doctor to attend them was often obliged to travel over considerable distances. Now that there is free choice of medical attendant many of the insured persons have left their former works doctor and put their names on the list of a panel doctor who lives nearer at hand. Thus, works doctors have lost many old patients, but some have gained many new ones.

The Attitude of the Insured Patients towards their Medical Advisers.

So far as the relations between the practitioners and their patients are concerned there is no difference in the behaviour of former club patients and the care they expect to receive. There is, however, a great difference when dealing with the newly insured. Thus, one of the leading local practitioners declared to me that he had seen more domestic servants since the Act came into force than during the last five years. Then he had any number of railway servants, stonemasons, carpenters, and skilled artisans generally, who came to him now as insured persons, while formerly they used to consult him, less frequently it is true, but they all paid fees. There were few Friendly Societies in the neighbourhood of Bothwell, and many of those who belonged, for instance, to the Oddfellows, were miners. Consequently, they were entitled to the care of their works doctor. If they also paid for medical aid through their Friendly Society they might have the choice of two medical attendants, for they paid for both. Altogether, and in their dealings with the adult male population, who for the most part are miners, not only have medical men no general cause of complaint, but it seems that, if taken as a whole, the position of the colliery surgeons has improved, though individuals here and there may undergo some loss.

The Medical Contract with the Miners' Federation.

The medical practitioners at Bothwell and for many miles round have, however, other anxieties. The population does not consist only of insured persons. The old scheme of insurance such as it was secured medical attendance for the families, and these are entirely neglected by the Insurance Act. In providing for these dependents the medical practitioners have to deal with the Miners' Federation of Scotland, which is a branch of the Miners' Federation of Great Britain, and this in its turn is a branch of the International Federation of Miners, which has many thousands, perhaps some millions of members, and sends direct representatives to the House of Commons and the principal Parliaments of Europe. Facing such an organisation, with its expert leaders and committee men, its delegates well trained in the art of negotiating on behalf of large bodies of men, the members of the medical profession, who have had so little experience in organisation and collective action, find " [illegible] Miners' Federation, [illegible] in taking action in [illegible] s an Association of Public Works Surgeons with whom the Miners' Federation could negotiate. The Public Works Surgeons' committee for Scotland and the Miners' Federation met on several occasions during January and February, and finally signed an agreement which, however, is terminable on either side after a month's notice. The terms then accepted were a flat rate to be paid by all adult males, whether married or unmarried, this to be deducted from their wages by their employers. The amount is 2*d.* per week, and for this medical attendance and medicine are to be given to the wives and children—in fact, the non-insured dependents. If the medical practitioner provides the medicine he is to receive the 2*d.*, or 8*s.* 8*d.* per annum. If not, a ½*d.* would go to the dispensing chemist. No part of the 2*d.* is to be deducted for working expenses or management, and in this agreement the miners were careful not to allow a privileged set of works doctors to be brought back into existence. On the contrary, they enforced what the Act had given in regard to insured persons by insisting that there should also "be free choice of doctor for the wives and families, subject to the consent of the doctor to act." This agreement has been signed not only on behalf of the miners of Lanarkshire but several other Scotch counties.

Formation of a Fighting Medical Union.

It was quite obvious, from the various conversations I have had on the spot, that a good many medical men feel not a little humiliated by the obviously inferior position they hold when face to face with the great trade unions of this country, and especially the Miners' Federation. The medical profession has no direct representatives in the House of Commons, it has no discipline, and it has no strike fund to back a fight when a fight is necessary. "What we must have," said one of the leaders of the profession in Lanarkshire, "is a medical union organised on absolutely the same lines as a working man's trade union. We have lived among trade unionists all our lives, we know what trade unionism means, and we appreciate its value, whereas a large number of members of the British Medical Association know nothing whatsoever about trade unionism. In fact, they rather despise it and consider themselves above that sort of thing—above using the only effective weapon at our disposal. Our bread and butter depends on the spirit of trade unionism we can develop in our ranks." Within the last few weeks, I was assured, nearly every practitioner in Lanarkshire had signified his readiness to join a fighting union and help to build up a strike fund. An executive committee with chairman had been appointed, as also a paid secretary. In regard to the latter post, they meant business. They were not going to elect some eminent medical man who stood high in the ranks of his profession and had distinguished himself in his science. What had that got to do with organising a movement to raise practitioners from real poverty? They had appointed for secretary a solicitor who would keep them on the right side of the law and see there were no flaws in the contracts they might have to sign. In Midlothian a practitioners' union was being formed on similar lines, and in Ayrshire the members of the profession are showing a dissatisfaction which may be expressed in a similar way.

Increase of Miners' Contributions for Medical Service.

In the face of such a bellicose spirit it seemed to me as though the Insurance Act has greatly changed the views of medical practitioners. It has engendered the spirit of organisation, and suggested the possibility of collective action. Everywhere the same observation has been made to me in all the places that I have visited. The Act has brought the members of the profession closer together; and, with the growth of strength which union secures, grievances that have been endured because remedy seemed hopeless are now brought forward as having entered the domain of practical politics. Thus, at Bothwell, I found medical practitioners distinctly militant in their intention to stand up for their professional rights; yet, instead of having some new cause of complaint, it can be argued that their material position had been improved, in any case so far as the miners are concerned. Formerly, one married and one unmarried miner (50 per cent. only of the miners being married) paid each 13*s.* a year. Estimating the family of the married man at five, this makes 26*s.* a year for a total of six persons. For this sum they all received medical attendance and medicine. To-day these two men are insured persons and 8*s.* 6*d.* is paid on their behalf under the Act, so that they may get medical attendance, special tuberculosis treatment, and medicine. This is an annual total of 17*s.* Then these two men also pay 2*d.* a week each, or 8*s.* 8*d.* a year, and that is a total of 17*s.* 4*d.*, to secure medical treatment and medicine for the wife and children. Thus the medical profession and the dispensing chemist obtain under the Act, and in accordance with the agreement concluded with the Miners' Federation, an annual total of 34*s.* 4*d.* for attending to six persons; whereas before the Act they only received 26*s.* This is undoubtedly a very substantial increase. There may be losses in other directions, but so far as the miners are concerned more is paid than was ever given before for the medical attendance they receive, and they constitute the vast majority of the population at Bothwell. The position would not of course be so favourable if a larger proportion of miners were married, if the bachelors were to refuse to help in bearing the married men's burdens, or if the average of five per family proved to be below the actual figure.

If it came to reopening the negotiations the colliery surgeons feel that they stand unarmed in front of so formidable an organisation as the Miners' Federation. By its influence in Parliament, where so many miners, men who have actually worked in the pits, occupy safe seats, by its discipline, by its financial resources, amounting to some millions sterling, the Miners' Federation stands like a giant by the side of whatever pretence at organisation the medical profession may possess. The medical advisers to the middle and upper classes who live in residential districts and fashionable quarters have no conception of these things. But the colliery surgeon sees what the forces of organised labour can do, and he bitterly resents the inferior organisation and comparative weakness of his own profession.

(To be continued.)

ROYAL INSTITUTION OF GREAT BRITAIN.—A course of three lectures on Recent Physiological Inquiries by Professor W. Stirling, M.D., is now in progress at the Royal Institution, Albemarle-street, London, W. The lectures will be illustrated by means of the kinematograph, epidiascope, autochrome, and other lantern slides and by experiments. The first lecture, on Tuesday last, was on Motion and Locomotion. Lecture II. will be delivered at 3 P.M. on Tuesday, May 6th, on Equilibration and the Sixth Sense, and Lecture III. will be delivered at 3 P.M. on Monday, May 12th, on Ductless Glands and their Dominating Influences.

THE GERMAN SURGICAL CONGRESS.

(FROM OUR BERLIN CORRESPONDENT.)

(Concluded from page 1200.)

Collargol in Septicæmia and Cancer.

Professor KAUSCH (Berlin) said that in septicæmia with remittent pyrexia collargol had always been efficacious, but that in cases with continuous pyrexia there was little effect. It was, however, very useful when there was continuous pyrexia after the opening of an abscess. Intravenous injection was the best method of administration; rectal injection was not advisable unless intravenous injection was not allowed by the patient. The usual dose was 10 grammes of a 2 per cent. solution. When the effect of this was insufficient, or the case was very severe, from 20 to 30 grammes must be injected daily or every second day. Professor Kausch also treated 11 cases of inoperable cancer by large doses of collargol up to 100 grammes, combined with Roentgen rays. None of the patients recovered, although a case of cancer of the liver was temporarily relieved. One patient died three days after the injection of 80 grammes, and at the necropsy the kidney was found to be obstructed by a silver precipitate.

Operations on the Brain.

Professor VON EISELSBERG (Vienna) reported the results of his operations for tumours of the brain. He had operated upon 162 cases. Growths of the cerebrum occurred in 69 patients, and in 40 of the cases they were removed, with 9 deaths—5 from meningitis, 3 from shock, and 1 from pneumonia. At a later period 8 patients died from various causes, including a relapse of the growth and prolapse of the brain; 6 were improved, and 9 recovered. In 16 cases growths of the hypophysis were operated upon. In 33 cases an operation was performed for tumours of the cerebellum, 17 for tumours of the auditory nucleus. The latter had the worst prognosis, as 11 out of 17 patients died. In 29 cases trephining was performed for palliative reasons. Previous to the operation lactate of calcium and urotropine were administered. The operation was usually performed under local anæsthesia. Hæmorrhage of the bones of the skull was stopped by driving in wooden pins. The operations were as a rule made in two stages and drainage was avoided. Osteoplastic methods were not employed in operations on the cerebellum. Tumours of the auditory nucleus were operated on according to Krause's method.. Defects of the dura mater were covered by plastic flaps of the fascia, so that the danger of infection was considerably diminished. Nevertheless, 11 patients died from meningitis and 19 from shock. Although the prognosis of the operation was unfavourable, it must be considered that the cases themselves were very sad.

Operations on the Spine.

Professor RANZI (Vienna) reported 40 operations on the spine performed in Professor Eiselsberg's clinic. Of these patients, 17 suffered from growths, 5 from fractures, and 2 from spondylitis; there were also 16 cases of Förster's operation. The operations were performed under general anæsthesia with injections of adrenalin. The vertebral arches were always removed. In opening the dura mater a quick discharge of the cerebro-spinal fluid must be avoided The dura mater must be opened, even when the growth had an extradural position, because multiple growths might be present. In Förster's operation the extradural procedure, according to Guleke's method, showed a remarkable progress After the operation the dura mater must be exactly sutured and plugging must be avoided. Of the 40 cases, 30 ended fatally. Of the various growths, the extradural had the best prognosis. Förster's operation was especially efficacious in spastic paresis of the lower extremities.

Professor KÜTTNER (Breslau) gave a report of his operations for cerebral tumours. He stated that an early diagnosis was very difficult. Trephining was frequently performed in doubtful cases above and below the tentorium. He had obtained good results by puncture according to Neisser's and Pollack's method, but the effect produced by puncture of the corpus callosum was less favourable. He operated in two stages under local anæsthesia and made an osteoplastic flap. Suturing of the dura mater was seldom performed. He had operated in 92 cases with a primary mortality of 30·5 per cent. A permanent recovery was obtained in 30·5 per cent.

Professor OPPENHEIM (Berlin) stated that the prognosis of operations for tumours of the brain had become worse of late years, the reason being in his opinion that a large proportion of doubtful cases were now operated on and that the indications for the operation have been extended.

Professor SCHLOFFER (Prague) read a paper on operations for visual disturbances caused by "tower skull" (Turm-Schädel). He said that he had removed in two cases the upper wall of the optic canal after having previously lifted temporarily the frontal bone with the dura mater. The patients were two boys in whom other operations (puncture of the corpus callosum and trephining) had been inefficacious. In one of the cases the eye, which hitherto had been amaurotic, had a perception of light three weeks after the operation.

Professor RITTER (Posen) described his method of arresting hæmorrhage in operations on the brain. He made the carotid arteries on both sides accessible and applied a clamp forceps temporarily. A complete arterial anæmia of the brain was obtained at once and the hæmorrhage from the veins stopped after a short time. He had operated in this way on three cases, the lesions being respectively fracture of the skull with depression, subcortical tumour, and purulent mastoiditis. The patients bore the operation very well. From the moment when the forceps was applied no anæsthetic was wanted; they awoke very soon and did not vomit.

Operations on the Kidney.

Professor KÜMMELL (Hamburg) gave a report of his definitive results in 386 cases of nephrectomy. He said that in tuberculosis recoveries were obtained in 80 per cent., in malignant growths in 40 per cent., in hydronephrosis in 98 per cent., and in pyonephrosis in 90 per cent. Unilateral mechanical injuries had a good prognosis, but Bright's disease a bad one. In polycystic degeneration nephrectomy was contraindicated. In tuberculosis a definitive recovery might be presumed after two years, and in cancer after four years if no relapse has occurred within these limits. A great number of the patients who had been operated on died within the first year. An affection of the other kidney in tuberculosis made the prognosis worse, but in some cases recovery occurred nevertheless—in one case after an incision of the kidney. Women with one kidney passed through pregnancy tolerably well, for among 17 cases Bright's disease and premature birth occurred respectively only once. Morphine, ether, and diphtheria antitoxin were well supported by patients with one kidney, but veronal and chloral badly.

Dr. BÄTZNER reported the results of 100 cases of nephrectomy performed in the Berlin University Clinic from 1901 to 1912. In 9 cases there was a fatal issue in connexion with the operation; of the remaining patients 28 died from accidental diseases, 3 from uræmia, and 60 were still alive. The worst results were obtained in cases of malignant growth, as all the 18 patients died from a local relapse or from metastases. The results in cases of hydronephrosis and of pyonephrosis were very good, and so were those in cases of Bright's disease, acute inflammation of the kidney, and tuberculosis.

Dr. VOELKER (Heidelberg) said that tuberculous foci in the kidney might heal up spontaneously, but that the tissue of the kidney was destroyed. Conservative treatment must therefore be deprecated even in slight cases.

Thymectomy for Graves's Disease.

Professor VON HABERER (Vienna) said that he had performed thymectomy in four cases of Graves's disease. In a fifth case the thymus gland was removed for symptoms of stenosis. The operations were successful. He mentioned especially a case in which grave symptoms were present and became worse after resection and ligature of the thyroid gland. Thymectomy was then performed, but only a rather small thymus body was found. Nevertheless, the success was striking; the dilatation of the heart no longer existed, the pulse-rate fell to 84, the nervous symptoms and the congestion of the liver disappeared, and the patient was able to engage in mountain climbing.

Operations on the Gall-bladder.

Professor KEHR (Berlin) reported the results of 2000 operations on the gall-bladder. Comparing his second with his first 1000 he said that the general mortality had become worse owing to the increase of malignant cases. The mortality of operations for gall-stones had decreased, especially in the cases in which the operation included draining the hepatic duct. Cystotomy has altogether been abandoned. As one result of his large experiences, he said that peritonitis was no longer met with as a sequel of operation, neither was there any infection of the wound when the subcutaneous fatty tissue was not sutured. The danger of hæmorrhage in icteric patients was still rather great; there was only one remedy against it—namely, an early operation before cholæmic symptoms appeared.

Military Surgery.

Dr. GOEBEL (Breslau) described some of his experiences at the war in Tripoli. He mentioned lesions caused by bombs thrown from aeroplanes; they were distinguished by their multiplicity, by the localisation of the lesions on the lower extremities and the trunk, and by a characteristic course of the track of the projectile through the tissues. They were caused mostly by shrapnel bullets. In Tripoli enteric fever showed many surgical complications, including abscess of the parotid gland, empyema, abscess of the appendix vermiformis, and gangrene of the leg and the toes.

Dr. COENEN (Breslau) reported his experiences in Athens during the Balkan war. He had treated 665 patients suffering from gunshot wounds, of whom 7 died, whilst 75 per cent. recovered without any complication. Thirty cases of severe cellulitis were treated by large incisions and in four instances by amputation. Among 23 cases of wounds of the joints, 4 resections and 1 amputation were performed; the other patients recovered without operations. Of 94 compound fractures, 83 healed by primary union, 11 with complications and 1 case after amputation. Aneurysms occurred in 5 cases; they were operated on when they had become encapsuled. Wounds of the spine gave a bad prognosis owing to the occurrence of bedsore and infection of the bladder.

Dr. KIRSCHNER (Konigsberg) gave an account of his experiences in Sofia and Mustafa-Pascha with the Bulgarian forces. Owing to unsuitable transport arrangements and defective first-aid, secondary infection of wounds of the bones, the vessels, and the joints was frequently observed. The wounded arrived at the hospital in a state of exhaustion. Immediate fixation of these wounds by a plaster bandage at the dressing-station was absolutely necessary. For wounds of the soft tissues the starch mastisol dressing was the best method.

Dr. FRANK (Berlin), who had worked in an intermediate hospital with the Greeks, said that the first field dressing carried by each soldier had been very useful. Mastisol proved to be a barrier, not only against bacteria, but also against vermin. Wounds caused by artillery bullets often became infected. Erysipelas was seldom observed and tetanus never Pyocyaneus infection was frequent. Meningitis often occurred when trephining had been performed in the dressing station. Wounds of the calf of the leg were frequent, and were of bad prognosis with respect to the recovery of function.

Dr. GOLDAMMER (Berlin) expressed the opinion that the frequency of infections was somewhat underestimated, according to his experiences in a hospital of the first line where the infected patients were left who could not be transported to the base hospitals. He had obtained good results in the treatment of infected wounds by the use of passive congestion according to Bier's method.

Dr. VERTH (Kiel), a naval surgeon, spoke on the peculiarities of wounds inflicted in a naval engagement according to experiences in the Russo-Japanese war. In a naval engagement the majority of wounds were caused by artillery fire, mines, and torpedoes. In the above war 75 per cent. of the wounds were due to artillery and 25 per cent. to mines and torpedoes. When an encounter took place on an average 20 per cent. of the crew were injured, of whom 4 per cent. died; 8 per cent. were severely, and 8 per cent. slightly, wounded. Concerning the wounds themselves, he stated that one-quarter of the wounds were contusions, one-third were contused wounds, one-sixth were penetrating wounds, one-tenth were mutilations, one-tenth were burns, and one-tenth were lesions of the eyes and the ears. Injuries of the viscera might be expected in about 5 per cent., and fractures in 20 per cent.

Dr. CLAIRMONT (Vienna) read a paper on Gunshot Wounds of the Skull. He said that these wounds must always be regarded as infected because the brain did not overcome slight infection as easily as other parts of the body did. Tangential wounds gave the worst prognosis and required surgical interference at all periods.

Considerations of space preclude an enumeration of the numerous other papers read at the meetings.

Professor MÜLLER (Rostock) was elected President of the next Congress.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Medical Certification under the National Insurance Act.

THE Insurance Commissioners last week summoned conferences between representatives of the Insurance Committees and of the Approved Societies in the various areas where the panels have failed to fill. In Dublin the conference was held last Monday, and a discussion took place on the question of appointing whole- or part-time referees, but it was felt that such a step would lead to unpleasant friction between the medical attendants and the certifying referees. Eventually a resolution was adopted requesting the medical profession to reconsider the question of fees, and to appoint a delegation with full powers to meet the conference. Failing action by the profession, the conference recommended that the Commission should hand over to the societies their appropriate share of the grant, and that the societies should be left to make their own arrangements. It is believed that if the societies get control of the grant they will be willing to pay a fee of 2*s.* 6*d.* per certificate, the sum demanded by the profession. Indignation has been roused among the medical men of county Longford by the statement of the chairman of the Insurance Commission that a panel had been "completed" in that county. It is stated by the Local Medical Committee that it holds the written pledge of every medical man practising in the county not to go on the panel. It is to be noted that the Commissioners have not yet divulged the names of those said to be on the panels. At the meeting of the Conjoint Committee on April 26th a resolution was passed pointing out to the Commission that the attempt to obtain medical certificates from medical men other than those in attendance on the patients would be in contravention of the recognised ethics of the profession. A discussion also took place with reference to a pledge said to have been given on behalf of the Irish Parliamentary party to obtain for the medical profession a minimum capitation fee of 2*s.* 6*d.* for certificates. Having heard the statement of Mr. Thomas Hennessy, supported by letters from Mr. J. C. Lardner, M.P., Mr. J. Cullinan, M.P., and Mr. J. S. McArdle, the Committee was of opinion that the National Insurance Act Committee of the Irish party had made a definite offer to the profession of the fee named.

The Poor-law Medical Officers' Committee (I.M.A.) at their meeting in Dublin on April 21st passed a series of resolutions condemnatory of the arrangements for certifying under the National Insurance Act, and severely criticising the action of the "Conjoint Committee." The Belfast board of guardians have asked for a return from their dispensary doctors showing the proportion of insured persons treated in the dispensary (Poor-law) for the quarter to the end of June to see if it is true—as alleged—that Friendly Societies in Belfast were getting the benefit of the Poor-law dispensary for their members. The medical practitioners of Lisburn have founded an association, and have agreed not to form a panel for certification under the National Insurance Act. It is also said that the rural doctors around Lisburn have decided not to go on the panel. At a meeting of Friendly and Approved Societies held in Belfast on April 22nd the feeling was so strong against bringing in the dependents—should medical benefit become extended to Ireland—that when a resolution was proposed advocating this plan it found no seconder. The meeting instructed their delegates to the London Conference to ask that if medical benefit was extended to Ireland it should be done simply as it is being worked in England.

The Meath Hospital.

The annual meeting of the Meath Hospital, Dublin, was held last Monday. The report for the year stated that there were in the wards of the hospital on April 1st, 1912, 121 patients; 1379 were admitted during the year, making 1500. Of these, 1273 were discharged cured or relieved, 105 died (25 being moribund when admitted), and 122 remained on March 31st, 1913. The total number of days spent in hospital was 42,214. The average daily number of beds occupied was 115·66. The average number of days spent in hospital by each patient was 30·61, and the mortality was 7·62 on the total treated to a termination. There were also 9840 accident cases treated as out-patients, and the dispensary cases numbered 9544. There was, therefore, a total of 20,884 persons who received medical or surgical treatment during the year. The number of attendances at the out-patient departments amounted to 31,736. There was at the commencement of the financial year a debit balance of £7528 17*s.* The total expenditure was £7294 1*s.* 11*d.*, and the total ordinary income £6313 11*s.* 6*d.*, showing a deficiency on the year of £980 10*s.* 5*d.*, which increased the debit balance to £8509 7*s.* 5*d.* The managing committee fears that unless more voluntary subscriptions are received it will be compelled to curtail the number of beds.

Belfast Nervous Diseases Hospital.

At a special meeting of the committee of management of the Hospital for Nervous Diseases, Belfast, held on April 25th, a minute was adopted expressive of the deep loss the institution had sustained by the death of Dr. J. M. MacCormac, who 16 years ago founded the hospital, and appreciative of his good work there. An extract of this minute was directed to be sent to Mrs. MacCormac.

April 28th.

ERRATA.—Mr. H. W. Bailie, medical superintendent officer of health of the city of Belfast, writes to correct two inaccuracies in the Irish letter in THE LANCET for April 19th, p. 1130. The number of cases of diphtheria notified since October, 1912, was 182, not 300, and the number of cases notified in March was 34, and not 154, as stated by our correspondent.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Obituary.

TWO members of the Academy of Medicine have died in the same week—viz., Professor Jaccoud and M. Yvon. Professor Jaccoud had been permanent secretary of the Academy since 1901. He attained a distinguished position in medicine without any initial advantages. He defrayed the heavy cost of medical study out of his earnings as first violin at the Opéra Comique. His thesis for the doctorate in 1860 was on the pathogenesis of albuminuria, and in 1863 he published a comparative study of ancient and modern humoralism. In 1864 his work on motor paralyses and ataxias was published and was received with enthusiasm. In 1871 he published his clinical lectures, followed by a treatise on internal pathology, and in 1876 by a dictionary of practical medicine. In 1877 he was appointed a professor of the Paris Faculty of Medicine and in the same year was elected a member of the Academy, where his erudition, his eloquence, and his remarkable memory were greatly appreciated. This exceptional memory enabled him to learn by heart the memorial addresses that he had to deliver in his capacity of permanent secretary of the Academy, surprising his hearers by the accumulation of dates, of proper names, and of quotations. In spite, however, of the admiration he aroused, the somewhat disdainful hauteur with which he judged of certain works was a source of surprise. Careless of popularity, while he took no trouble to gain the esteem of his *confrères* or the admiration of his pupils, he nevertheless secured the respect of all. M. Yvon, a member of the Section of Pharmacy of the Academy of Medicine, was one of the most active personalities and one of the best informed and most courteous of the Parisian scientific world. Besides active collaboration in the preparation and revision of the Codex, an immense work in itself to which he modestly devoted much of his life, he published some notable studies on the preparation of certain drugs, an elaborate monograph upon ergot and its derivatives, and other works.

The Surgical Treatment of Hæmorrhoids.

At the Société des Chirurgiens de Paris on April 11th M. Abel Desjardins said that to ensure a complete cure of hæmorrhoids, whatever operation was employed, it was necessary to remove the entire hæmorrhoidal plexus, to resect the mucosa, which was always affected, and to dilate the sphincter. He could not admit the alleged defects attributed to Whitehead's operation, but regarded them as the results of defective technique. He then described his own method, which had given him excellent results.

Explosion at the Hôpital Laennec.

A serious explosion occurred on April 25th in the laboratory of one of the wards of the Hôpital Laennec, causing great alarm among the patients, many of whom crept under their beds or attempted to escape, while the more helpless ones uttered heartrending cries. The ward attendants finally calmed them and no one was injured, but the laboratory and all its contents were destroyed, and a fire was prevented only by the promptitude of those on duty.

The Prophylaxis and Specific Treatment of Typhoid Fever.

On April 22nd M. Debove presented to the Academy of Medicine a communication by Dr. Petrovitch, in charge of the infectious diseases hospital at Uskub, on the effects of serum therapy and antityphoid inoculation in typhoid fever. Up to the present time antityphoid inoculation has not been used in the Servian troops, but Dr. Petrovitch practised it in the case of persons who were brought especially into contact with typhoid patients. He employed the vaccine in a small dose to avoid the dangers of the negative phase. Beginning with himself, he made 120 injections, using a dose equal to 100 millions of bacilli killed by heat and diluted with a cubic centimetre of physiological serum. Notwithstanding the impossibility of the vaccinated persons removing themselves from the typhoid influence during the period immediately following the inoculation, only two of these persons contracted typhoid fever, and that in a very benign form. They became convalescent, one in 14 days, the other in 20. In the treatment of the disease Dr. Petrovitch used the vaccine employed in the British army, made from Eberth's bacilli killed by heat. An injection of the vaccine diluted with physiological serum, and corresponding to 20,000,000 of Eberth's bacilli, was given in each case in the subclavicular region. The number of typhoid patients admitted to hospital was 680, of whom 460 were submitted to bacteriotherapy. The other 220 patients preferred not to undergo it. Both groups were also treated with cold baths. The number of injections varied between one and three. Excluding those who died within 24 hours of admission, the mortality was 2·9 per cent. of the vaccinated and 12·8 per cent. of those treated exclusively with cold baths, both classes of patients [illegible] ubjected to the same [illegible] among the Servian [illegible] open air and slept in tents or in the open. It was only when the troops had to be lodged in buildings in the conquered towns that the crowding and uncleanliness combined gave rise to epidemics of dysentery and typhoid fever.

April 28th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Medical Department of the Austro-Hungarian Army in Readiness for War.

THE proximity of the countries engaged in the recent war, together with the intimate national and racial relations between a portion of the belligerents and the Austrian Empire, has made it most important for us to be prepared for any and every emergency in the near future. Prominent among such precautions would be the bringing of the medical department of the army into a state of complete readiness for active service, because the experience of all the surgeons, whether of the Red Cross Society or of the volunteer expeditions, who were able to see active service at the front proves the utter inadequacy of all the medical and hygienic preparations made by the belligerents on both sides. The Vienna Gesellschaft der Aerzte has done much to elucidate the real state of affairs by organising a series of lectures and discussions on this subject, mostly delivered by surgeons returning from the battlefield, where they had been working for several weeks. Among the various papers a most able one was read by Professor Hochenegg, the director of the first surgical clinic in the Vienna General Hospital. He summarised the necessary preparations under three heads—namely: (1) medical aid for the sick and wounded soldiers; (2) the nursing staff; and (3) the materials for sanitary purposes. He calculated that, in accordance with the percentage of casualties found in the recent engagements, a minimum of 100,000 wounded men would have to be cared for. The Austrian Red Cross Society had accommodation ready in its hospitals for only 10,000 men, whilst another 50,000 wounded would fall to the care of the Austrian army, the remaining 40,000 being in the care of the Hungarian part of our Empire. These 50,000 would have to be made fit for transport in the field hospitals before being sent to the rear. Assuming that 20 men could be accommodated in one room, 250 hospitals, each having ten rooms (200 beds), would be required for this purpose in the field. Each ward or field hospital ought to have at least one surgeon in charge and two surgically competent assistants. This number of surgeons was not at present provided for in the army, and the reserve of medical officers ought to be distributed amongst the regiments according to this principle. Even worse conditions prevailed as regards the nursing staff. The Red Cross Society had a fairly sufficient staff for its hospitals, but the remaining 50,000 patients would require at least 500 thoroughly trained nurses (2 per hospital) who would be able to work as head nurses, with another 7500 assistant nurses (3 per room of 20 beds, or 30 per hospital). Austria has not so many nurses, and therefore they would have to be sought from those volunteering for that service. Moreover, besides those nurses who would be wanted in the hospitals, a very large number would be required for substitution in other hospitals, whence the regular sisters would be called to the front, also for convalescent homes and for infectious and contagious wards, so that a total of 25,000 nurses would not be far from the actual figure wanted. But the experience of the Austrian surgeons in the Balkan cities, where they have had to deal with voluntary nurses (those who offered their services coming from all classes of the population), was very discouraging. The people whom they had to employ were neither reliable, earnest, nor willing, and the only result was a complete breakdown of the voluntary nursing system. Professor Hochenegg therefore advised a very energetic action in this respect in order to secure the indispensable number of female nurses in case of need. The third point of his paper dealt with the medical requisites for the sick and wounded in a modern war. The amount of dressings only wanted for 50,000 wounded was calculated at about 12,000,000 yards of roller bandages within one month, and all other substances (alcohol, ether, chloroform, ointments, solutions, &c.) would have to be provided for in enormous quantities. For this reason the factories should be bound by contracts to keep always a stock ready for immediate delivery sufficient at least for four weeks. It has happened several times that factories have been sold out for days owing to the demands upon their resources during the Balkan war. It was also important to be prepared for outbreaks of war-borne epidemics such as cholera, dysentery, typhoid fever, smallpox, tetanus, and the like. Large stocks of vaccines and serum should always be at hand in the State laboratories, and a well-equipped corps should be organised for the purpose of dealing with such an outbreak, either at the front or in the rear of the army. Prompted by the interesting paper read before the society, Dr. Steiner, the principal staff surgeon of the Austrian Military Medical Corps, stated at once what preparations the army authorities had already made to meet any emergency. First of all, he said, the army was prepared to provide more than double the number of beds mentioned in the paper, and a large number of soldiers were fully trained as nurses. The stocks of medical requisites were also amply sufficient and were being constantly replenished, as well as kept up to date by very frequent inspections. Indiarubber goods were the only articles kept in stock to a limited extent, because they soon became deteriorated if not frequently used, but contracts had been made providing for immediate delivery of a sufficiency of this class of requisite on a day's notice being given to the factories. The army authorities, however, viewed with some anxiety the difficulty of procuring a sufficiently numerous and adequately trained female nursing staff, and would encourage in every way the efforts of the Austrian Red Cross Society to induce females of the better classes to take up the profession of trained nurses. For this purpose it was important to increase the number of the members. Whilst Japan had more than 2,000,000 members of the Red Cross Society (5 per cent. of the population) and Germany had 600,000 (1 per cent. of the population), we had hardly 60,000 (0·2 per cent. of the population).

The Sale of Pathogenic Micro-organisms.

The recent criminal case at Frankfort, in which a man tried to kill his wife by injecting her with pathogenic bacteria, has brought to the notice of the public and the authorities how easy it is to obtain virulent substances convenient for secret administration with felonious intent. The sero-therapeutic institute in Vienna, where the famous "Kral Museum" is situated, contains stocks of nearly all the organisms known to science. It used to provide bacteria only for scientific institutes, but the present case has shown that all the care which might have been expected has not been taken, for the would-be murderer bought his bacteria by pretending to be the owner of a chemical laboratory. In consequence of this criminal attempt strict precautions have now been adopted, so that in future such dangerous objects as pathogenic bacteria will not be supplied to any person who may make an improper use of them. None but officially recognised institutes and medical men of acknowledged scientific standing will be able to procure them from Vienna.

April 28th.

CANADA.

(From our own Correspondent.)

Dominion Registration.

The next meeting of the Medical Council of Canada will be held at Ottawa on June 17th and four following days. It is expected that by that time the Council will be in a position to open the new Register to all those who have been in active practice in Canada for ten years prior to Nov. 7th, 1912, the date on which the Canada Medical Act came into force.

Annual Meeting of the Canadian Medical Association.

The annual meeting of the Canadian Medical Association will be held in London, Ontario, on June 24th, 25th, 26th, and 27th, under the presidency of Dr. Hugh A. Macallum, Dr. W. W. Francis, of Montreal, being the general secretary. The programme for the first two days will be devoted to the sections in medicine, surgery, gynæcology, obstetrics, pathology, public health, eye, ear, nose and throat, and X rays. On the morning of the first day Professor McPhedran, of Toronto University, will open a discussion on diseases of the stomach, and Dr. C. F. Martin, of Montreal, Dr. Charles R. Stockton, of Buffalo, U.S.A., Dr. C. D. Aaron, of Detroit, U.S.A., and Mr. H. J. Paterson, F.R.C.S., of London, England, with others will take part. The address in medicine will be delivered by Dr. Llewellys Barker, of Baltimore; that in surgery by Dr. Alex. Hutchison, of Montreal; and that in gynæcology by Dr. Thomas Cullen, of Baltimore. There is to be a symposium on the thyroid gland, introduced by Dr. A. J. Oschner, of Chicago. Dr. Frank Billings, of Chicago, will conduct a medical clinic, and Dr. J. B. Murphy, of Chicago, will give a lantern demonstration on surgical diseases of the bones and joints.

Dr. Friedmann's Visit to Canada.

h Dr. Friedmann came to Canada from New York,
eously received by the Canadian medical pro-
treated patients in Montreal, Ottawa, Toronto,
He was invited to Toronto by the University,
some criticism of the University for inviting
a secret remedy. Not a single cure has
ate, but the profession in Canada are
, with a disposition to wait patiently
e, the lay press found Dr. Friedmann's
a newspaper standpoint. The pro-
in the United States and Canada, is wondering why Dr. Friedmann passed by England and France to demonstrate his "cure" on this side the Atlantic.

Canadian Association for the Prevention of Tuberculosis.

At the annual meeting of this association, held in Ottawa on March 12th and 13th, over 150 medical men were present from different points in Canada, as well as a number of lay delegates. The Hon. Adam Beck, London, Ontario, presided, and the meeting was graced by the presence of H.R.H. the Duke of Connaught, who has always manifested great interest in the work of the association. Dr. Friedmann was present, and read a paper on his "cure."

Cocaine in Canada.

The Academy of Medicine, Toronto, and the Montreal Medico-Chirurgical Society have recently passed resolutions calling the attention of the Federal Government to the importation into Canada of a certain asthma remedy which contains a considerable amount of cocaine. They urge that if it be allowed to enter Canada at all it should be obtainable by the public only on the prescription of a local registered practitioner.

Vancouver General Hospital.

The city of Vancouver recently voted $375,000 for extending the work of this hospital. A nurses' home is to be built, two units of an isolation hospital, and a service building. A new wing was added last year, and when this is finally completed and furnished there will be accommodation in the main building of the institution for 375 beds. During the past year 377 deaths occurred in the institution, the number of patients treated being 5231. The daily cost per patient was $1.98. The hospital is in debt to the amount of $42,000.

April 15th.

THE NATIONAL INSURANCE ACT.

London Insurance Committee.

At the meeting of the London Insurance Committee on April 24th the medical benefit subcommittee recommended the extension of the medical ticket until July 14th in order that the medical register might be completed and insured persons given a further opportunity of selecting their doctors. On this report there was an attempt to initiate a debate on a proposal to limit the number of persons who might be accepted by one person. The chairman, however, ruled that a matter of such importance could not be raised without notice, and the report was thereupon adopted.

Acceptance of a Limited Number of Patients.

The subcommittee also reported that it had had under consideration representations from medical men who expressed willingness to join the panel if they were permitted to limit the total number of persons whose treatment they were expected to undertake. It appeared that the extent of the private practices of a number of medical men was a bar to their unconditional consent to join the panel. In this connexion the subcommittee quoted an answer given in the House of Commons on Feb. 14th by the Financial Secretary to the Treasury to the effect that if an Insurance Committee allowed doctors to accept a limited number of lives these must be an "average sample" of lives, and the approval of other doctors on the panel must be obtained. The subcommittee understood that the suggested limitation would enable a large number of medical practitioners to join the panel. The Insurance Commissioners had stated that there would be no necessity to include names of medical practitioners in the lists of doctors supplied for use in each metropolitan borough, provided that their names were included in the alphabetical list for the whole county, and this list was publicly exhibited. The medical practitioners on the panel had already agreed to a proposal to allow a doctor to limit the number of insured persons accepted by him. The subcommittee recommended that doctors be permitted to join the panel for the purpose of treating a limited number of persons, and this was approved.

Complaint against a Medical Practitioner.

At the meeting of the Committee held on April 3rd the medical service subcommittee presented a report that a complaint had been made regarding a medical practitioner on the panel that when asked to attend a patient he said he wanted "live men, not dying ones" The doctor denied absolutely the whole of the circumstances but the *subcommittee, after careful inquiry, reported that it was satisfied that the state*ments made by the complainant were correct A recommendation that a copy of the report be forwarded to the practitioner was referred back to the subcommittee on the ground that more stringent action should be taken The matter came before the Committee again on April 24th It was pointed out by Mr R C K Ensor that under the Regulations the Committee had no middle course between the extreme measure of reporting to the Commissioners with a view to removal of the doctor from the panel, and doing nothing at all Mr E B Turner asked if it was not possible for the Committee to do something more definite than a vote of censure Mr O E Warburg, the chairman of the subcommittee, remarked that the punishment in this case was not contained in the fact that a transference of the patient to another medical man was proposed, that was merely incidental The subcommittee felt that in conveying to the doctor, on the authority of the Insurance Committee, that after hearing his evidence in full the Committee had come to the conclusion he was not speaking the truth, a penalty of some severity was being inflicted This expression of opinion would be on record, and it was *tantamount to a reprimand*

The Committee approved the action taken by the subcommittee

MANCHESTER MEDICAL COMMITTEE

The Manchester Medical Committee was elected at a meeting, to which every medical practitioner in the city was invited, *on Feb 8th, 1913* *The composition of the com*mittee was decided upon as follows (1) eight representatives *from each district—North South West, and Central*, (2) all medical practitioners appointed to the Manchester Insurance Committee, (3) two representatives of the medical women of Manchester

The Manchester Medical Committee consists of Dr T A Helme (chairman) Dr C G L Skinner and Dr A W Chapman (vice chairmen) Dr J D'Ewart (honorary treasurer), Dr R G McGowan, 1 Thomas street, Cheetham Hill and Dr A E Cotterill, 42 Brook road, Fallowfield (honorary secretaries) together with 32 *other members* The medical representatives on the Manchester Insurance Committee elected by the local medical profession are Dr T A Helme and Dr R G McGowan, those appointed by the Manchester city council are Dr A W Chapman and Dr J Stavely Dick, those appointed by the Insurance Commissioners are Dr E Johnstone and Dr E M Brockbank The members of the profession on the Medical Service Subcommittee are Dr T A Helme, Dr C G L Skinner, and Dr A E Cotterill

The following is the scale of fees agreed upon between the Manchester Medical Committee and the Manchester Insurance Committee —

		£	s	d
1	*Attendance on the patient at the practitioner s residence* surgery, or dispensary	0	2	0
2	Visit to the patient s residence	0	2	6
3	Special visit—i e a visit paid the same day *in response to a call received* after 10 A M	0	3	6
4	Night visit—i e a visit made between the hours of 9 P M and 9 A M *in response to a call received* between those hours	0	5	0
5	Surgical operation requiring local anæsthesia (other than incision of abscess)	0	10	6
6	Cases of abortion and miscarriage to be treated at ordinary rates			
7	Administration of a general anæsthetic	1	1	0
8	Setting of fracture or reduction of dislocation	0	10	6
9	Sanatorium benefit report Med 2 Ordinary fees for succeeding visits or consultations	0	5	0

The Manchester Medical Committee having been asked whether certain procedures requiring a local anæsthetic are to be entered as operations under Section 5 of the above scale, a subcommittee has the question of further definition under consideration, and possibly it may be found desirable to arrange for a revised scale with a schedule dividing the operations commonly *undertaken in* general *practice* under local anæsthesia into groups at different fees In the meantime the Committee advises practitioners to follow as closely as possible the lines of ordinary practice, and book as operations under local anæsthesia only such procedures as have hitherto been usually charged at the rate of *7s 6d* or more in addition to the ordinary visiting or consultation fee

Medical News.

SOCIETY OF APOTHECARIES OF LONDON —At examinations held recently the following candidates passed in the subjects indicated —

Surgery —J T [illegible] (Sections I and II) St Mary s [illegible]

[illegible]

Medicine —J, T L [illegible] G Fildes (Section [illegible] (Sections I and I[illegible] (Section II), St M[illegible] and II) Leeds [illegible] (Sections I and II) St Bartholomew s Hospital

Forensic Medicine —G Fildes Manchester D Havard London Hospital H P Shackleton Leeds and R L M Wallis St Bartholomew s Hospital

Midwifery —H P Shackleton Leeds R L M Wallis St Bartholomew s Hospital, and A H Willson, London Hospital

The Diploma of the Society [illegible] entitling them to practise in [illegible] J T I Evans H C C Hack[illegible] Mathews R A Robinson H [illegible] S Zarchi

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW AND ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH —The recent examinations of the *Royal College of Physicians of Edinburgh, Royal College* of Surgeons of Edinburgh and Royal Faculty of Physicians and Surgeons of Glasgow, held in Glasgow, were concluded on April 10th The following candidates passed the First Professional Examination —

William Brown Larkhall Norman Stewart Bruce Glasgow Robert Phillips Crawford Glasgow Henry Godfrey FitzMaurice Carlow, and John Alexander Murray Glasgow

The following candidates passed the Second Professional Examination —

John Crawford Paisley Archibald Evans Wales David Andrew *Imrie* Glasgow Robert MacGregor Glasgow James Young M Lean Glasgow James Maxwell Adams M Vey Glasgow, George Lynn Pillans Glasgow Henry Shaw Belfast William Templeton Glasgow Frederick William Thompson Garliestown, and Reginald Leslie Wright Derby

The following candidates passed the Third Professional Examination —

John William Cowie Tillicoultry John Rennie Carrie Gordon Glasgow and William Lylo Paterson Glasgow

The *following candidates passed the Final Examination* and were admitted *L R C P E*, *L R C S E*, and *L R F P S G* —

St[illegible]

FOREIGN UNIVERSITY INTELLIGENCE —*Bahia* Dr Deocleciano Ramos has been appointed Professor of Medical Pathology —*Genoa* Dr R Pardo, of Modena, has been recognised as *privat docent* of Ophthalmology —*Gratz* Dr Rigobert Possek, *privat docent* of ophthalmology, has been granted the title of Extraordinary Professor —*Hamburg (Tuberculosis and Cancer Research Institute)* Dr Freiherr von Dungern, of Heidelberg, has been appointed Director of the Institute —*Leipsic*. Dr B Schweitzer has been recognised as *privat docent* of Midwifery and Gynæcology —*Lemberg* Dr Anton Cieszynski, of Munich, has been appointed Extraordinary Professor of Odontology, and Dr Josef Markowski has been appointed to the chair of Anatomy —*Madrid* Dr Porpeta, of Granada, has been appointed to the chair of Anatomy —*Modena* Dr L Martinotti, of Genoa, has been recognised as *privat docent* of Dermatology and Syphiligraphy —*Naples* Dr Candela has been recognised as *privat docent* of Medical Pathology, and Dr A Bianco and Dr F Carpaldo as *privat docenten* of Otology and Laryngology —*Padua* Dr Luigi Da Gaetani has been recognised as *privat-docent* of Anatomy —*Rome* Dr Alfonso Cuzzi has been recognised as *privat docent* of

Midwifery and Gynæcology; Dr. Manin Amante as *privat-docent* of Traumatic Affections; and Dr. Filippo Traetta-Mosca as *privat-docent* of Biological Chemistry.—*Turin:* Dr. F. Grignolo, of Genoa, has been recognised as *privat-docent* of Ophthalmology.—*Vienna:* Dr. Albert Müller and Dr. W. Neumann have been recognised as *privat-docenten* of Medicine.—*Würzburg:* Dr. K. Wessely, extraordinary professor of ophthalmology, has been promoted to the chair of that subject in succession to Dr. von Hess.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on April 17th, with Sir Francis H. Champneys in the chair. A letter was considered from the town clerk of Birmingham with regard to the effect of the National Insurance Act on the work and future training of midwives. The Board directed that the town clerk of Birmingham be informed (*a*) that the question does not come within the scope of the duties of the Board, and (*b*) that the correspondence be forwarded to the Privy Council. A letter was considered from the Clerk of the Flintshire county council suggesting that the Board should adopt "a simpler form of case book ...... for the use of nurses." The Board directed that the clerk of the Flintshire county council be informed that the Board sympathises with the difficulty of the Flintshire county council, but the register has been carefully thought out, and it is hoped that the education of the midwives may so greatly improve as to render any alteration of it unnecessary. A letter was considered from the clerk of the Middlesex county council inquiring as to the extent to which "approved" midwives should themselves attend with their pupils (*a*) at the time of the confinement, and (*b*) during the lying-in period. The Board directed that the clerk of the Middlesex county council be informed that the Board holds each "approved" midwife directly responsible for the cases attended and for any neglect in supervising the training of pupils, but it does not specify the number of visits which must be paid, as this must vary greatly in different cases.—A special meeting of the Central Midwives Board was held on April 24th at Caxton House, Westminster, with Sir Francis H. Champneys in the chair. The Board considered the following charges amongst others against the midwives whose names are given below, and ordered them to be struck off the roll:—Emma Dickson, that being in attendance as a midwife at a confinement, the patient suffering from serious rupture of the perineum, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E.20 (3); she attended the patient for eight days only, following the confinement; she discontinued her attendance at a time when the patient was seriously ill; and she did not at any time take the pulse or temperature of the patient, as required by Rule E. 13. Anna Hobbs, that being in attendance as a midwife at a confinement she paid only two visits to the patient; she neglected to take the patient's pulse or temperature, as required by Rule E. 13; she was not of sober habits; and she neglected to attend her patients with regularity and to pay an adequate number of visits. Nancy Sheldon, that being in attendance as a midwife at a confinement, the patient suffering from retained placenta, she endeavoured to secure its expulsion by traction on the cord, and a registered medical practitioner having been sent for she failed to notify the local supervising authority thereof, as required by Rule E. 21 (1). Esther Tiley, that being in attendance as a midwife at a confinement she endeavoured to assist delivery of the placenta by traction on the cord; she omitted to record in her register of cases the occurrence of any complication; and that she was unable to make use of a clinical thermometer, and consequently could not comply with Rule E. 13. Elizabeth Anne Wood, that being in attendance as a midwife at a confinement, the child suffering from inflammation of, and discharge from the eyes, she did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5). Th following midwives were cautioned after charges again them had been considered: Emma Josephine Chapma Lydia Edwards, and Edith Elizabeth Tripp.

THE Royal Dental Hospital, Leicester-squar has received a donation of £100 from Mr. John Lewi executor of the will of the late Miss Ames.

NURSING AND MIDWIFERY CONFERENCE.—Th sixth annual conference was held last week at the Hort cultural Hall, Westminster, when many subjects of interes were discussed, and the speakers included a number c medical men as well as nurses. Vaccine and the Tubercul Treatment of Consumption were dealt with by Dr. W. d'Est Emery and Dr. Halliday G. Sutherland. Poor-law Nursing wa dealt with by Miss Gibson, who pointed out the defects an suggested a central organisation by means of which the larg unions could help the smaller ones; and by Miss Elma Smit who gave an interesting account of some of the reforms whic she had seen introduced during the last 20 years. In th Massage Session the principal speakers included Dr. J. S Mackintosh and Dr. R. W. A. Salmond. The last tw days were devoted to social work, finance, and nursing abroa In the Midwifery Sessions many subjects of technical an professional interest were discussed. Dr. W. Douglas Knocke barrister-at-law, traced the history of midwifery in Englan from the early Middle Ages down to the last century. Re ferring to Clause 1 (2) of the Midwives Act, he said it mu be remembered that uncertified practice was forbidde "habitually *and* for gain," not "*or* for gain." This enable a woman to practise for charity, or occasionally for gai Several speakers dealt with the question of training in i various aspects, and all agreed that a longer training wa necessary. Miss Alice Gregory and Miss Mona Wilso discussed the maternity benefit and midwives under th National Insurance Act, and Mrs. Stephen Glanville calle attention to the professional outlook for midwives, whic would be either improved or destroyed by the Act In his address on Infant Feeding in Midwifery Practice, Dr Eric Pritchard brought forward several interesting points He insisted on the inability of the child's stomach at birt to assimilate food and the necessity of the development o the power of digestion along the lines of nature. All foreig matter was poisonous to the child's stomach and interfere with the development of the power of digestion. Even the colostrum of a wet nurse was foreign matter because th colostrum of one woman differed from that of another He urged the plan of training an infant from the first to tak a certain amount of food at absolutely regular intervals. H recommended three hours as a suitable interval. In German four-hour intervals had been adopted with success, but in vestigation seemed to show that English mothers did no secrete as much milk as German mothers. He had foun the cheapest artificial food which could be given to an infan was dried separated milk, with the addition of linseed oil i order to supply the necessary fat. Mr. Bishop Harma gave a lecture on Ophthalmia, with epidiascopic illustra tions, and Dr. J. S. Fairbairn addressed the midwives o their Duties and Dangers in Connexion with Venere Disease.

ROYAL MEDICAL BENEVOLENT FUND.—At th April meeting 21 cases were considered and grants amoun ing to £200 voted to 18 of the applicants. Appended is a abstract of the cases relieved:—

Widow, aged 57, of L.R.C.P. Edin. Only income about 10s. a wee from lodgers; children unable to help. Relieved three times, £3 Voted £10.—Widow, aged 51, of M.B., C.M. Glasg. Since husband death ten years ago has been supported by a son, but asks for a litt help to relieve him. Voted £5.—Daughter, aged 45, of late M.R.C [illegible] her post owing [illegible] oms Relie [illegible] L.R.C.S. Edi [illegible] illness, and [illegible] grave internal complaint. No income. Thr children, the eldest only 16. Voted £24.—Widow, aged 48, L.R.C.P., L.R.C.S. Edin. Health too feeble to admit of occupation. an is allowed £1 a mon [illegible] Ladies' Guild. Is a candida for a pension from t [illegible] ospital for Incurables. O child dependent a [illegible] to help. Relieved 17 time £196. Voted £12.—Widow, aged 43, of M.B., C.M. Aberd. Supplemen an income of a few shillings a week by taking boarders, but having fo young children finds great difficulty in meeting her unavoidab expenses. Relieved twice, £20. Voted £10.—Daughter, aged of late M.R.C.S. Is mentally feeble, and for many yea has been practically dependent on this Fund and a small pe sion given by another society. Relieved 14 times, £144. Voted £12.

Daughter, aged 42, of late L.R.C.P., L.R.C.S. Edin. Endeavours to [illegible]

[illegible] years from a spinal complaint, and is now practically bedridden. [illegible]

[illegible] boarding-house. [illegible] ster who can ill afford to help.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 15, Wimpole-street, London, W.

DONATIONS AND BEQUESTS.—By the will of the late Mr. Edward Webb, of Studley Court, Stourbridge, the testator left £5000 to the Corbett Hospital, Amblecote, Staffs; £3000 for or towards a wing to be called the Margaret Jane Webb Wing in memory of his wife, and £2000 for the furnishing and equipment of that wing.—The late Colonel Frank Shuttleworth, of Old Warden Park, Biggleswade, has left by will £3000 to the Bedford County Hospital, £2000 to the Lincoln County Hospital, £1000 each to the Middlesex Hospital and the Cancer Hospital, Brompton; and £500 each to the Great Northern Central Hospital, the Bedford Dispensary, and the Lincoln Dispensary.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Sale of Inflammable Fabrics.

MR. THEODORE TAYLOR, in introducing the Misdescription of Fabrics Bill in the House of Commons on Wednesday, April 23rd, announced *that its sole object is to prevent the sellers of textile fabrics from* describing as inflammable articles which are not so. The measure has been brought forward with a desire to lessen the number of burning fatalities which arise from flannelette clothing catching fire. The extent of this evil was revealed in the report of the Departmental Coroners Committee, which in 1910 recommended legislation to make it penal to describe as "safe," flannelette or other textile fabrics which were highly inflammable. The Bill does not prohibit the sale of these fabrics, nor does it require them to be marked "dangerous" It merely prohibits them being marked or represented as "safe against fire." The Bill was read a first time. Its backers include Dr. ADDISON, Mr. BOLAND, Colonel BROCKLEHURST, Sir FREDERICK CAWLEY, Sir HENRY CRAIK, Mr. FERENS, Mr. HILLS, Mr. JOYNSON-HICKS, Sir JOHN MCCALLUM, Mr. NUTTALL, and Mr. ALBERT SMITH.

Nurses' Registration Bill.

A deputation organised by the Central Committee for the State Registration of Trained Nurses, and introduced by Dr. CHAPPLE, M.P., was received by Mr. ASQUITH on Monday, April 23th. The Prime Minister, in answer to requests to give Government time for the passage of the Nurses' Registration Bill, declined to grant special facilities, but suggested that the supporters and opponents of the measure should confer *in order to see whether an approach to* unanimity could be reached.

Amongst those present were Mr. MUNRO FERGUSON, M.P., and Lady HELEN MUNRO FERGUSON, Dr. CHAPPLE, and the following delegates from affiliated societies:—The British Medical Association: Sir Victor Horsley, F.R.S.; Dr. Alfred Cox, medical secretary. The Matrons' Council of Great Britain and Ireland: Miss L. V. Haughton, matron, Guy's Hospital, London; Miss R. Cox Davies, matron, Royal Free Hospital, London. The Royal British Nurses' Association: Dr. Comyns Berkeley, medical honorary secretary; Miss E. C. Tawney. The Society for the State Registration of Trained Nurses: Mrs. Bedford Fenwick, President; Miss Margaret Breay, honorary secretary. The Fever Nurses' Association: Dr. E. W. Goodall, Past President, Medical Superintendent, Eastern Fever Hospital; Dr. Biernacki, medical superintendent, Plaistow Fever Hospital. The Association for Promoting the Registration of Nurses in Scotland: Dr. D. J. Mackintosh, M.V.O., honorary secretary. The Scottish Nurses' Association. Dr. J. McGregor Robertson, Vice-President; Miss M. Dow, honorary treasurer. The Irish Nurses' Association. Miss M. Huxley, President. Miss Alice Reeves, matron, Royal Eye and Ear Hospital, Dublin. The National Council of Trained Nurses of Great Britain and Ireland Miss E. M. Musson, Vice-President, Matron, General Hospital, Birmingham; Miss E. C. Barton, matron, Chelsea Poor-law Infirmary. The National Union of Women Workers of Great Britain and Ireland: Miss Agnes Garrett.

HOUSE OF COMMONS.

WEDNESDAY, APRIL 23RD.

Insured Persons in Hospitals.

Mr. WORTHINGTON EVANS asked the Secretary to the Treasury whether in the case of an insured person without dependents having to pay 5s. a week for her maintenance in the Nelson Hospital during a time when she was otherwise qualified for sick benefit, the fact that she was in a hospital prevented her society paying her sick benefit [illegible] benefit of the insured person

Sale of Medicines in Portsmouth.

[illegible] had the signatures of 491 persons who were opposed to the other [illegible] medicines and medical and surgical appliances, and does not specifically mention chemists' shops.

Nayland Sanatorium.

Mr. BURNS (President of the Local Government Board) informed Mr. WORTHINGTON EVANS that the proposals in regard to a grant for Nayland Sanatorium were still under consideration and no decision had been arrived at.

THURSDAY, APRIL 24TH.

Unregistered Dentists in Ireland.

Mr. CATHCART WASON asked the Chief Secretary to the Lord Lieu- [illegible]

[illegible] BIRRELL wrote in reply: I am informed that there are about [illegible] unregistered dentists in Ireland. A sum of £5000 has been included in [illegible] es of dental [illegible] he money is [illegible] towards the [illegible]

Mental Deficiency (Scotland) Bill.

In answer to Major HOPE, Mr. ASQUITH (the Prime Minister) stated that the Mental Deficiency (Scotland) Bill would be sent to the Scottish Grand Committee. He hoped that it might be possible to pass it this session.

Herbalists and Christian Scientists and the National Insurance Act.

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St. Paul's Hospital for Skin and Genito Urinary Diseases, Red Lion square, Holborn —Honorary Assistant Surgeon. Also Clinical Assistant

Scarborough Hospital and Dispensary —Senior House Surgeon Salary £100 per annum, with residence board, &c

Sheffield Royal Hospital —Assistant House Physician, unmarried. Salary £6

Sheffield R

Salary £7

Shoreditch I

Superinte

fire, and washing

Southampton, Free Eye Hospital.—House Surgeon Salary £100 per annum, with board, lodging, and laundry

Southampton, Royal South Hants and Southampton Hospital —Junior House Surgeon for six months Salary at rate of £80 per

STOE

with

-Two

with

Officers Salaries

Salary £75

per annum, with board

Taunton, Somerset and

Medical Officer, unmarried

rtments, board, washing, attendance &c

Truro Royal Cornwall Infirmary —House Surgeon, unmarried Salary £100 per annum, with rooms, board, and washing

Warrington Lancashire County Asylum, Winwick —Locum Tenens Medical Officer, unmarried for five months Salary 4 guineas per week, with apartments, board, attendance, and washing

West End Hospital for Diseases of the Nervous System Paralysis and Epilepsy, 73 Welbeck street W —Resident House *Physician for six months Salary at rate of £50 per annum*

West Ham and Eastern General Hospital —Junior House Physician Salary at rate of £75 per annum, with board, residence,

Wolverhampton and Staffordshire General Hospital —Resident Medical Officer Salary at rate of £100 per annum, with board, rooms and laundry

Worcester General Infirmary —House Physician Salary £100 per annum, with board residence, and washing

York Dispensary and Maternity Hospital.—Resident Medical Officer, unmarried Salary £140 per annum, with board, lodging and attendance

THE Chief Inspector of Factories, Home Office, London, S W , gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Gortin, in the county of Tyrone

Births, Marriages, and Deaths.

BIRTHS

Crawford —On April 28th, at Kilmeny, Keighley, Yorks, to Dr and Mrs John C Crawford a daughter

Eyre —On April 29th, 1913 at The Warren, Tulse Hill, S W , to Dr and Mrs John Eyre, a daughter

Leeming —On April 22nd, at The Friars, Sudbury, Suffolk, to Dr and Mrs Leeming a son

Mayo —On April 26th, at Clifton House, Cowes, the wife of Dr T A

son,

MARRIAGES

Homan—Burns —On April 23rd at St Johns Church, Chester, St G M L Homan, M B , B Ch , to Agnes Maxwell, second

ers Church, Cranley
, Dr Arnold William
Thompson daughter of
hithorn, Wigtonshire,

Giles s Cathedral, Edin
D Sc , M B M A , to

dinburgh by the Rev
tgomery, M B , C M ,
to Winifred Muirhead,
ate Charles Muirhead

Renshaw—Straghan —On April 24th at St Stephen's Dulwich, Captain John Allister Renshaw, R A M C , to Rachel Eleano

N.B.—A fee of 5s is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC HEALTH AT KINGSTON, JAMAICA, IN 1911

THE capital of Jamaica had a population in 1911 of 57 379, with a birth rate of 36 28 and a death rate of 29 47 per 1000, the latter was lower than in any year since 1907 when the occurrence of an earthquake was followed by a considerable increase in mortality Year by year since then (except in 1910) there has been a progressive reduction During the year under review there was no outbreak of any serious disease though the endemic of typhoid fever that started after the earthquake in 1907 still continued, there were 190 cases of which 147 were resident in Kingston No decided opinion appears to have been arrived at as to its causation except a suggestion as to " the enormous importance of the personal over any other factor in the spread of the disease Allusion is also made to a connexion between a foul privy system and enteric incidence, and to possible spread through the mediation of flies The three preventive measures required are extension of the sewerage system improvement in domestic sanitation, and control of typhoid cases and carriers Malaria has been much less prevalent and severe than in any recent year largely on account of the energetic antimosquito measures adopted All known breeding grounds are regularly treated and it is hoped that in a year or two all possible breeding grounds will be abolished Not a single case of yellow fever has been reported Stegomyia fasciata is to be found in about 4 per cent of the rooms and yards visited, but is becoming scarcer year by year There has been no plague, but rat destruction is carried out by means of virus, and in view of the approaching opening of the Panama Canal vigilance will be required Tuberculosis has caused a mortality of 2 8 per 1000, this is a lower rate than in any year since that *of the earthquake (1907) when there was a sudden and considerable* increase of deaths from this cause Pulmonary tuberculosis is now a compulsorily notifiable disease in Kingston and though no special means of isolation have been available, much good work has been done in the way of disinfection and by informing public opinion generally as to preventive measures As the medical officer of health, Dr Angus Macdonald, says in his introductory letter, there is nothing extraordinary to be related in the public health affairs of Kingston during the year, but this absence of any particular matter requiring comment is itself a matter for congratulation, as indicating the efficacy of the preventive measures that have been carried out

RESULTS OF VACCINATION IN THE PHILIPPINE ISLANDS

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SCARBOROUGH HOSPITAL AND DISPENSARY —Senior House Surgeon Salary £100 per annum, with residence board, &c

SHEFFIELD ROYAL HOSPITAL —Assistant House Physician, unmarried. Salary £6 [illegible]

SHEFFIELD R [illegible] Salary £7 [illegible]

SHOREDITCH I [illegible] Superinten [illegible] fire, and washing

SOUTHAMPTON, FREE EYE HOSPITAL.—House Surgeon Salary £100 per annum, with board, lodging, and laundry

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL —Junior House Surgeon for six months Salary at rate of £80 per [illegible]

[illegible] STOE [illegible] with [illegible]

[illegible] —Two [illegible] with [illegible]

[illegible] Officers Salaries [illegible]

[illegible] Salary £75 per annum, with board

TAUNTON, SOMERSET AND [illegible] Medical Officer, unmarried [illegible] rtments, board, washing, attendance &c

TRURO ROYAL CORNWALL INFIRMARY —House Surgeon, unmarried Salary £100 per annum, with rooms, board, and washing

WARRINGTON LANCASHIRE COUNTY ASYLUM, Winwick —Locum Tenens Medical Officer, unmarried for five months Salary 4 guineas per week, with apartments, board, attendance, and washing

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM PARALYSIS AND EPILEPSY, 73 Welbeck street W —Resident House *Physician for six months Salary at rate of £50 per annum*

WEST HAM AND EASTERN GENERAL HOSPITAL —Junior House Physician Salary at rate of £75 per annum, with board, residence, [illegible]

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL —Resident Medical Officer Salary at rate of £100 per annum, with board, rooms and laundry

WORCESTER GENERAL INFIRMARY —House Physician Salary £100 per annum, with board residence, and washing

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer, unmarried Salary £140 per annum, with board, lodging and attendance

THE Chief Inspector of Factories, Home Office, London, S W, gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Gortin, in the county of Tyrone

Births, Marriages, and Deaths.

BIRTHS

CRAWFORD —On April 28th, at Kilmeny, Keighley, Yorks, to Dr and Mrs John C Crawford a daughter

EYRE —On April 29th, 1913 at The Warren, Tulse Hill, S W, to Dr and Mrs John Eyre, a daughter

LEEMING —On April 22nd, at The Friars, Sudbury, Suffolk, to Dr and Mrs Leeming a son

MAYO —On April 26th, at Clifton House, Cowes, the wife of Dr T A [illegible] son,

MARRIAGES

HOMAN—BURNS —On April 23rd at St Johns Church, Chester, St G M L Homan, M B, B Ch, to Agnes Maxwell, second [illegible]

[illegible] ers Church, Cranley [illegible], Dr Arnold William [illegible] Thompson daughter of [illegible] lithorn, Wigtonshire,

[illegible] Giles's Cathedral, Edin [illegible] D Sc, M B M A, to [illegible] Edinburgh by the Rev [illegible] tgomery, M B, C M, to Winifred Muirhead, [illegible] ate Charles Muirhead

RENSHAW—STRACHAN —On April 24th at St Stephen's Dulwich, Captain John Allister Renshaw, R A M C, to Rachel Eleanor [illegible]

N.B.—A fee of 5s is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC HEALTH AT KINGSTON, JAMAICA, IN 1911

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FRIDAY [illegible]

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" 26	29·60	S.W.	0·15	95	55	42	46	49	Cloudy
" 27	29·47	S.W.	...	109	62	49	52	54	Cloudy
" 28	29·77	S.W.	0·06	85	63	49	54	56	Overcast
" 29	30·07	S.	0·09	110	67	49	52	54	Cloudy
" 30	29·83	W.	0·41	89	58	52	50	53	Cloudy

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water were prepared in strengths varying from 1 in 20 to 1 in 100. 0·25 c.c. of the serum was mixed with 0·25 c.c. of the acid solutions and the strength of the acid solution required to neutralise the equal volume of serum was ascertained, a standardised solution of litmus being used as the indicator. Wright's observations have shown that in a normal individual who is not pregnant the strength of the acid solution required to neutralise the serum is between 1 in 30 and 1 in 45, the average being 1 in 35. This may be expressed by the formula :—

$$\frac{N}{35} H_2SO_4$$

I first made a series of observations upon six pregnant women who had shown no signs of deviation from the normal. All the patients were between the thirty-second and fortieth weeks of pregnancy. The results of these observations were as follows :—

Case 1	32 weeks	$\frac{N}{38} H_2SO_4$
„ 2	34 „	$\frac{N}{40}$ „
„ 3	35 „	$\frac{N}{39}$ „
„ 4	38 „	$\frac{N}{37}$ „
„ 5	38 „	$\frac{N}{42}$ „
„ 6	40 „	$\frac{N}{40}$ „

Three observations were taken in each case and the formula given is the mean of the three observations. Comparing these figures with those obtained by Wright it appears that normally there is a slight diminution in the alkalinity of the blood during pregnancy. In the cases of pregnancy toxæmia, however, the fall is generally marked and sometimes very striking. This is shown in the following table :—

Case 1	Eclampsia (after two fits)	$\frac{N}{68} H_2SO_4$
„ 2	*Kidney of pregnancy*	$\frac{N}{54}$ „
„ 3	Eclampsia (before fits)	$\frac{N}{70}$ „
„ 4	Eclampsia (before fits)	$\frac{N}{48}$ „
„ 5	Eclampsia (after seven fits)	$\frac{N}{72}$ „
„ 6	Kidney of pregnancy	$\frac{N}{84}$ „
„ 7	Kidney of pregnancy	$\frac{N}{62}$ „
„ 8	Eclampsia (after one fit)	$\frac{N}{72}$ „
„ 9	Eclampsia (before fits)	$\frac{N}{88}$ „

It will be seen that in all these cases the alkalinity of the blood was below that of normal pregnancy, but the fall in alkalinity bore no definite relation to the severity of the toxæmia, for in Case 9, a relatively mild case, the fall was greatest, whilst in Case 5 in which after many violent convulsions the patient died in coma the fall was much less marked. I h[illegible] only four cases of [illegible] In each instance [illegible] casts and œdema was a marked symptom :—

Case 1	Gravida	36 weeks	$\frac{N}{40} H_2SO_4$
„ 2	„	35 „	$\frac{N}{42}$ „
„ 3	„	30 „	$\frac{N}{38}$ „
„ 4	„	38 „	$\frac{N}{40}$ „

None of these cases had, or subsequently developed, uræmic convulsions. It will be seen that the fall in alkalinity was not greater than that found in normal pregnancy.

Criticism of these results.—In employing this method we cannot claim to estimate accurately the alkalinity of the blood, but having established a normal standard we can detect deviations from that standard, and this is all that is required for the purpose we have in view. Whether we are justified in regarding the diminished alkalinity of the blood as evidence of acidosis in these cases is another question altogether, for in eclampsia lactic acid can often be found in the blood, and it is quite possible that the fall of alkalinity is due in part at least to this cause. Lactic acid may be found after any violent muscular exertion, particularly if the supply of oxygen is deficient and has been detected in considerable quantities after the convulsions of uræmia; I have had no opportunity of examining the blood of a pregnant woman after uræmic convulsions. It must be borne in mind that in acidosis induced by the administration of mineral acids it is some time before the alkalinity of the blood is diminished, for the alkalies are extracted first from the tissues and from the blood only when the supply begins to fail, hence a diminished alkalinity is not to be looked for as an early sign of acidosis, and I have not found it in the slighter cases of toxæmia.

I feel justified, however, in concluding that in cases of albuminuria of doubtful origin in pregnancy the determination of the alkalinity of the blood should form part of the investigation and sometimes affords considerable help in reaching a diagnosis.

The Proportion of Nitrogen Excreted in the Form of Ammonia Salts.

In these series of observations I am greatly indebted to Dr. Priestley and Mr. Mackenzie Wallis, who have performed a considerable number of the estimations. The total nitrogen was estimated by Kjeldahl's method, by which all the nitrogen is converted into ammonia and estimated as ammonia sulphate; the urea was estimated by the sodium hypobromite method, and the ammonia by Schlösing's method. The results have shown uniformly an increase in the ammonia coefficient, whilst in the chronic nephritis cases such a rise has not been noted, except in one case where convulsions supervened, and in this case it is doubtful whether the convulsions should be regarded as uræmic or eclamptic. Observations in normal pregnancy have shown that from 80 to 85 per cent. of the nitrogen is excreted as urea and 4 to 5 per cent. as ammonia.

I will first give the figures we obtained in the cases of toxæmia :—

		Urea.	Ammonia.
Case 1	Eclampsia	63 per cent.	16 per cent.
„ 2	*Kidney of pregnancy*	71 „	12 „
„ 3	„ „	63 „	18 „
„ 4	Eclampsia	62 „	18 „
„ 5	„	51 „	16 „
„ 6	„	68 „	22 „
„ 7	Icterus gravis	63 „	17 „
„ 8	*Kidney of pregnancy*	74 „	10 „
„ 9*	„ „	63 „	21 „
„ 10	„ „	66 „	14 „

* Convulsions 10 days later.

It will be seen that in this series of cases the ammonia coefficient *is high throughout and the urea coefficient is diminished. It is also to be noted that the proportion of* undetermined nitrogen is usually high.

Let us now compare a series of six cases of chronic nephritis :—

			Urea.	Ammonia.
Case 1	Gravida	32 weeks.	82 per cent.	5 per cent.
„ 2	„	35 „	80 „	6 „
„ 3*	„	28 „	62 „	14 „
„ 4	„	30 „	87 „	4 „
„ 5	„	20 „	83 „	5 „
„ 6	„	38 „	78 „	7 „

* Convulsions ? uræmic ? eclamptic.

With the exception of Case 3 there is very little alteration of the urea-ammonia ratio, and further the urea + ammonia is practically a constant quantity. There is no marked increase in the quantity of undetermined nitrogen. The six water were prepared in strengths varying from 1 in 20 to 1 in 100. 0·25 c.c. of the serum was mixed with 0·25 c.c. of the acid solutions and the strength of the acid solution required to neutralise the equal volume of serum was ascertained, a standardised solution of litmus being used as the indicator. Wright's observations have shown that in a normal individual who is not pregnant the strength of the acid solution required to neutralise the serum is between 1 in 30 and 1 in 45, the average being 1 in 35. This may be expressed by the formula :—

$$\frac{N}{35} H_2SO_4$$

I first made a series of observations upon six pregnant women who had shown no signs of deviation from the normal. All the patients were between the thirty-second and fortieth weeks of pregnancy. The results of these observations were as follows :—

Case 1	32 weeks	$\frac{N}{38} H_2SO_4$
" 2	34 "	$\frac{N}{40}$ "
" 3	35 "	$\frac{N}{39}$ "
" 4	38 "	$\frac{N}{37}$ "
" 5	38 "	$\frac{N}{42}$ "
" 6	40 "	$\frac{N}{40}$ "

Three observations were taken in each case and the formula given is the mean of the three observations. Comparing these figures with those obtained by Wright it appears that normally there is a slight diminution in the alkalinity of the blood during pregnancy. In the cases of pregnancy toxæmia, however, the fall is generally marked and sometimes very striking. This is shown in the following table :—

Case 1	Eclampsia (after two fits)	$\frac{N}{68} H_2SO_4$
" 2	*Kidney of pregnancy*	$\frac{N}{54}$ "
" 3	Eclampsia (before fits)	$\frac{N}{70}$ "
" 4	Eclampsia (before fits)	$\frac{N}{48}$ "
" 5	Eclampsia (after seven fits)	$\frac{N}{72}$ "
" 6	Kidney of pregnancy	$\frac{N}{84}$ "
" 7	Kidney of pregnancy	$\frac{N}{62}$ "
" 8	Eclampsia (after one fit)	$\frac{N}{72}$ "
" 9	Eclampsia (before fits)	$\frac{N}{88}$ "

It will be seen that in all these cases the alkalinity of the blood was below that of normal pregnancy, but the fall in alkalinity bore no definite relation to the severity of the *toxæmia, for in* Case 9, a relatively mild case, the fall was greatest, whilst in Case 5 in which after many violent convulsions the patient died in coma the fall was much less marked. I ha[illegible] only four cases of [illegible] In each instance [illegible] casts and œdema was a marked symptom :—

Case 1	Gravida	36 weeks	$\frac{N}{40} H_2SO_4$
" 2	"	35 "	$\frac{N}{42}$ "
" 3	"	30 "	$\frac{N}{33}$ "
" 4	"	38 "	$\frac{N}{40}$ "

None of these cases had, or subsequently developed, uræmic convulsions. It will be seen that the fall in alkalinity was *not greater than that found in normal pregnancy.*

Criticism of these results.—In employing this method we cannot claim to estimate accurately the alkalinity of the blood, but having established a normal standard we can detect deviations from that standard, and this is all that is required for the purpose we have in view. Whether we are justified in regarding the diminished alkalinity of the blood as evidence of acidosis in these cases is another question altogether, for in eclampsia lactic acid can often be found in the blood, and it is quite possible that the fall of alkalinity is due in part at least to this cause. Lactic acid may be found after any violent muscular exertion, particularly if the supply of oxygen is deficient and has been detected in considerable quantities after the convulsions of uræmia; I have had no opportunity of examining the blood of a pregnant woman after uræmic convulsions. It must be borne in mind that in acidosis induced by the administration of mineral acids it is some time before the alkalinity of the blood is diminished, for the alkalies are extracted first from the tissues and from the blood only when the supply begins to fail, hence a diminished alkalinity is not to be looked for as an early sign of acidosis, and I have not found it in the slighter cases of toxæmia.

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* Convulsions ? uræmic ? eclamptic.

With the exception of Case 3 there is very little alteration of the urea-ammonia ratio, and further the urea + ammonia is practically a constant quantity. There is no marked increase in the quantity of undetermined nitrogen. The six that must be investigated if an obscure case is to be elucidated As examples I will instance the following.

CASE 1 —An unmarried lady consulted me in 1890 for an error of refraction and came again in 1905-06
and later with an irido-cyclitis, she
she had spongy gums due to tartar
did not recover But when in Octobe
removed a mucous polypus from the
relieved dysmenorrhœa of some years
well and has not relapsed

CASE 2 —A girl came with irido-cyclitis and a septic mouth which was treated but the e
failed from 5 6 to 5/36
and was sent to a physi
a year's duration Fo
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Tables IA and IIA will be of interest chiefly to the ophthalmic surgeon They record the number of different parts affected, in many patients the disease attacked more than one part In the septic group, Table IA, it will be noticed that the uveal tract is the part chiefly involved, hence the greater number of secondary cataracts, whereas in Table IIA the sclerotic and cornea, the retina and optic nerve are more frequently affected

Though it would appear to be obvious after seeing these tables that sepsis from pyorrhœa is an important agent in causing inflammation of the eye, nevertheless the general application of this view is not yet universally accepted It seems incomprehensible that a surgeon, whose single aim is to avoid sepsis in his operations can think it a matter of no importance that a person should have a chronic source of sepsis in any part of his body

The usual objection made is that one sees very bad cases of pyorrhœa in people who say that they are enjoying the best of health and who do not complain These objectors seem to forget that Nature begins to raise a protecting barrier the very moment that the tissues are irritated by bacterial toxins or are invaded by the bacteria themselves If the invasion is slow enough, as is the case in pyorrhœa the barrier is efficient and the individual does not appear to suffer Whereas when the micro organisms are introduced direct into the circulation there is no time for an efficient barrier to be raised As long as the patient is in fair health the barrier is capable of doing its work, but this barrier may give way directly the general resistance of the tissues is lowered under the strain produced by some other illness or by traumatism, either surgical or accidental Then the organisms or an excess of their toxins will be able to pass through the defending barrier and some tissue in the body may become the seat of disease The enormous number of cases of pyorrhœa that one sees and the comparatively small number of diseases resulting therefrom shows how very efficient Nature's barrier is

These people with bad pyorrhœa say, and presumably believe, that they are in the best of health They are, of course, living, without knowing it, over a hidden drain, which *is constantly emitting poison, in such an insidious* manner, however, that they are unaware that they could possibly feel in better health When the drain is removed they are astonished at their increased vigour and feeling of rejuvenation

Although marked and long standing cases of pyorrhœa are easily recognised and would be condemned as inimical to health by most surgeons I would like to draw the attention of my colleagues to the importance of recognising even mild cases of the disease, as they also can cause central choroiditis Quite recently an ophthalmic surgeon who recognises that pyorrhœa does cause central choroiditis sent me such a case for my opinion as to the cause The patient, a youth of 18, had been reported upon by a dentist, who said nothing about pyorrhœa, the edges of the gums were only just pink, but there were pockets between the molars

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Until the medical profession at large recognise the importance of pyorrhœa and the gravity of leaving it untreated, one cannot reasonably expect the dental profession to do so either, especially as they are being taught to treat the mouth in a way that makes it impossible to avoid creating sepsis by putting on crowns and building bars and bridges that cannot be kept clean Until this policy is reversed and everything is done to enable the mouth to be kept aseptic, the loss of sight, and even total blindness due to pyorrhœa, will continue to occur

Our greatest hope of reform in the treatment of the mouth lies in imitating the Zulus and some other savages who rinse out their mouths and brush their teeth with a frayed out pencil of a special kind of wood at the end of every meal The condition of the mouths and teeth of these savages is the ideal for civilised communities Whereas, the condition of the mouths and teeth of neighbouring tribes, who do not follow this practice, can be seen any day in our hospital wards and out patient department If this habit of the Zulus were taught in early childhood and practised throughout life, there would be fewer blind eyes and much less ill health in the world

I am unable to express an opinion as to the merits of the various kinds of treatment for pyorrhœa that have been mentioned in this discussion, but as long as the protecting barrier is intact ionisation and local measures should be tried When this barrier has broken down and the eyes are affected by a serious inflammation which may destroy the sight, it is then too late to do anything except to remove the teeth at once Before the extraction the gums should be carefully cleaned and treated with antiseptics By doing so the amount of septic material that enters the system through the large raw, unprotected tooth sockets is greatly reduced. Failing this precaution, the eye frequently becomes worse immediately after the extraction If the sight is to be restored in a recent case of keratitis or of central choroiditis the affected teeth must come out on the chance that they are the cause, and if the inflammation does not subside then other possible causes must be investigated

I wish to draw especial attention to the baneful influence that a chronic septic focus frequently exerts upon eyes that have been operated upon The eye often becomes acutely inflamed, and remains red for a much longer period than the severity of the operation would warrant but rapidly quietens down when the exciting cause has been removed Although no permanent harm usually results, such a complication to the operation as this is to be avoided if possible, and therefore before I operate on any patient I always have the mouth examined and put in order if necessary and have a search made for other septic foci should there be any indication for so doing

I have devoted most attention to pyorrhœa because of its frequency in the present day, and consequently its importance to the ophthalmic surgeon The comparatively small number of my *cases attributed to the affections of the* alimentary tract shows that either toxæmia from stasis does not affect the eyes so frequently as pyorrhœa or that the majority of patients with stasis are too ill to trouble about their sight, and when they are cured the eyes have recovered That the alimentary tract is capable of producing central choroiditis is almost certain if one may judge by the effect produced by removing the appendix

CASE 3 —A Dominion surgeon brought his young wife for rapid loss of central vision in one eye with it she could only count fingers No definite cause for the central choroiditis could be found beyond very slight pyorrhœa which was very soon cured Improvement did not take place, and the vision of the second eye began to fail from the same affection In a week it had fallen

The following case illustrates the fact that the exposure was the exciting cause and the predisposing cause had been present without producing any effect for more than two years This cause consisted in a single septic sinus from an abscess of a root

CASE 4 —A physician in good health went for a day's fishing in mid October *before beginning* his duties as an examiner at the College When walking home in the evening he felt some discomfort in one eye and although this got worse he continued for some ten days to read that must be investigated if an obscure case is to be elucidated As examples I will instance the following.

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In cases of excessive absorption of alimentary toxins we [illegible] sia of the thyroid [illegible] course of this dis- [illegible] Rowell, and Mr. [illegible] en ileo-sigmoido- sto[illegible] of a goitre. [illegible] chain of evidence is afforded by [illegible] known as infective—arthritis. This disease is not uncommonly accompanied by enlargement of the thyroid gland, by Graves's disease, and by tetany, or a condition of the hands and feet closely resembling it. It is also regarded by many as an effect of oral sepsis or intestinal intoxication. An important support of this view is the work of Mr. Kenneth Goadby on the subject. Points which favour this contention are the almost invariable presence of oral sepsis, the beneficent effects, sometimes amounting to complete cure, which follow attention to the mouth; the improvement after lavage of the colon in some cases, and in a case recorded by Mr. Lane after ileo-sigmoidostomy.

In rheumatoid arthritis, then, we have a condition probably in many cases due to alimentary intoxication. In this condition overgrowth of the thyroid is apt to occur, and also tetany—a symptom of ineffective functioning of the thyroid gland—is found. Moreover, rheumatoid arthritis is occasionally distinctly benefited by the administration of thyroid extract.

Mr. Rupert Farrant has studied the effects of several types of clinical toxæmia upon the thyroid gland. The following changes occur: (1) the colloid becomes granular; (2) vacuolated and partially absorbed; (3) the cells become more numerous, elongated, and arranged in masses; (4) the colloid is entirely absorbed, and the walls of the vesicles become crenated and folded; and (5) the infolding and cell-increase go on to transform the vesicles into solid masses of cells. In other words, there is a reaction of the thyroid gland, with signs of hyperplasia and increased functioning, amounting in some cases to changes found in Graves's disease. This holds true for such diverse toxæmias as those of infantile diarrhœa, diphtheria, measles and broncho-pneumonia, and whooping-cough and broncho-pneumonia. A similar hyperplasia was caused in guinea-pigs by the injection of diphtheria toxin, but was mitigated if thyroid was given at the same time.

Equally conclusive inferences are to be drawn from the epoch-making researches embodied in the recent Milroy lectures of my friend, Major R. McCarrison, I.M.S., who has studied goitre as it occurs endemically in the valleys of Chitral and Gilgit in Northern India.[2] He has shown beyond dispute that thyroid enlargement can be produced experimentally in man, within a few weeks, by the administration of suspended matter separated by filtration from goitre-producing waters; and can be cured by taking thymol, one of the most powerful of gastro-intestinal antiseptics. He has shown that if the source of the toxin be avoided or removed the gland will return to normal size, unless secondary changes have occurred.

It is to be expected that, like other glands, the thyroid may undergo degenerative and retrogressive changes as the result of over-action. Normally at the menopause with the atrophy of the ovary part of its work ceases, and it is conceivable that if it has previously been subjected to undue activity its normal involution may overshoot the mark and lead to hypothyroidism and myxœdema. The last three cases of myxœdema which I have had under observation have all shown, together with severe oral sepsis and very offensive motions, anæmia of the pernicious form, which Dr. William Hunter has for so many years ascribed to lesions in the alimentary tract.

If the thyroid undergoes enlargement to combat undue toxæmia, it is reasonable to suppose that relieving it of part of its burden may cause a simple goitre to shrink, but this, of course, cannot be expected if adenomata or cysts are present. McCarrison has caused goitres to dwindle or disappear by using vaccines prepared from different forms of organisms—staphylococcus, a coliform bacillus, and a spore-bearing bacillus. The good results which he has obtained have led me to try a similar method of treatment, and I have followed out the plan which he adopted. The vaccines which I have generally employed have been prepared from the coliform bacilli of the patient's own bowel. The bacterial growth has been obtained from the fæces by culturing on Musgrave's medium, which consists of beef extract 0·5 gramme, sodium chloride 0·5 gramme, agar 20 grammes, tap water 1000 c.c., and is of an alkalinity of minus 1. This gives a growth of coliform bacilli of fairly constant character. The initial dose has been usually 125,000,000 of the dead organisms, suspended in about 1 c.c. of saline. Subsequently, if the goitre has shown signs of diminishing I have increased the dose weekly by 25,000,000 or 30,000,000. As a rule the injections have been given at weekly intervals.

It is too early to make any definite statement as to the results, but in the few cases, eight in all, treated they have been very encouraging. In one case the goitre disappeared entirely. In all the others it has diminished. As a rule, after the first injection the tumour becomes softer and, after subsequent doses, it gradually gets smaller, although occasionally periods of quiescence supervene. Two of the patients have been able to do up their neck-bands for the first time for several months after the first or second injection. A man who had taken to larger-sized collars is now wearing those of his ordinary size. One girl who had definite stridor, even when lying in bed, has now no embarrassment of breathing except slightly after exceptional exercise. All are charitable enough to say they are better and free from the symptoms which caused them to come for treatment, such as a feeling of suffocation and difficulty in swallowing and breathing.

Another effect has been that, by producing absorption of the parenchymatous enlargement, adenomata previously undetected have become obvious, and operative treatment has in this way been facilitated.

To sum up, the thyroid is a gland a useful function of which is to counteract intoxication. One of the sources of this intoxication is probably the bowel. If the intoxication be proportionately great for the gland, it undergoes hyperplasia and visible enlargement. If the amount of intoxication can be lessened the extra burden is removed and the gland diminishes. This has been done by the use of thymol and of vaccines, especially those prepared from cultures of the coliform organisms obtained from the patient's own intestinal flora.

Queen Anne-street, W.

INDICATIONS OF NERVE LESION IN CERTAIN PATHOLOGICAL CONDITIONS OF BLOOD-VESSELS.

BY T. WINGATE TODD, M.B. MANCH., F.R.C.S. ENG.,
PROFESSOR OF ANATOMY, WESTERN RESERVE UNIVERSITY,
CLEVELAND, OHIO, U.S.A.

SOME time ago it became apparent that the vascular symptoms so frequently associated with the sensori-motor syndrome of the affection often laconically designated "cervical rib" were probably produced by a lesion of the nerves supplying the blood-vessels of the arm. It was then obvious that the same explanation might afford a clue to the elucidation of many other obscure conditions. It was therefore my intention to investigate those other diseases to discover, if possible, whether any such relation existed in them between nerves and blood-vessels as has been shown to be present in cervical rib. Being aware of the difficulty of the problem and the many pitfalls which it presents I have been unwilling to write anything further on the subject until I possessed more extensive data than it is possible to submit at present. The appearance, however, of two recent papers bearing on the subject of blood-vessel changes consequent on nervous lesions would seem to make it advisable to review the work of recent investigators as a preliminary to further research.

Of the two papers mentioned above the first is one by Manouélian[1] showing that damage to nerves supplying the abdominal aorta and pulmonary artery results in localised areas of arterio-sclerosis typified by degeneration of elastic fibres and smooth muscle fibres with hyperplasia of the connective tissue of the media, together with intimal proliferation. The same results have been obtained in the case of the vessels to the ear after section of the cervical sympathetic by numerous workers, among whom may be

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[2] THE LANCET, Jan. 18th and 25th, and Feb. 8th, 1913.

In cases of excessive absorption of alimentary toxins we [illegible] [illegible]sia of the thyroid [illegible] [illegible]ourse of this dis[illegible] [illegible] Rowell, and Mr. [illegible] [illegible]en ileo-sigmoidosto[illegible] [illegible] [illegible]f a goitre. [illegible] chain of evidence is afforded by [illegible] known as infective—arthritis. This disease is not uncommonly accompanied by enlargement of the thyroid gland, by Graves's disease, and by tetany, or a condition of the hands and feet closely resembling it. It is also regarded by many as an effect of oral sepsis or intestinal intoxication. An important support of this view is the work of Mr. Kenneth Goadby on the subject. Points which favour this contention are the almost invariable presence of oral sepsis, the beneficent effects, sometimes amounting to complete cure, which follow attention to the mouth; the improvement after lavage of the colon in some cases, and in a case recorded by Mr. Lane after ileo-sigmoidostomy.

In rheumatoid arthritis, then, we have a condition probably in many cases due to alimentary intoxication. In this condition overgrowth of the thyroid is apt to occur, and also tetany—a symptom of ineffective functioning of the thyroid gland—is found. Moreover, rheumatoid arthritis is occasionally distinctly benefited by the administration of thyroid extract.

Mr. Rupert Farrant has studied the effects of several types of clinical toxæmia upon the thyroid gland. The following changes occur: (1) the colloid becomes granular; (2) vacuolated and partially absorbed; (3) the cells become more numerous, elongated, and arranged in masses; (4) the colloid is entirely absorbed, and the walls of the vesicles become crenated and folded; and (5) the infolding and cell-increase go on to transform the vesicles into solid masses of cells. In other words, there is a reaction of the thyroid gland, with signs of hyperplasia and increased functioning, amounting in some cases to changes found in Graves's disease. This holds true for such diverse toxæmias as those of infantile diarrhœa, diphtheria, measles and broncho-pneumonia, and whooping-cough and broncho-pneumonia. A similar hyperplasia was caused in guinea-pigs by the injection of diphtheria toxin, but was mitigated if thyroid was given at the same time.

Equally conclusive inferences are to be drawn from the epoch-making researches embodied in the recent Milroy lectures of my friend, Major R. McCarrison, I.M.S., who has studied goitre as it occurs endemically in the valleys of Chitral and Gilgit in Northern India.[2] He has shown beyond dispute that thyroid enlargement can be produced experimentally in man, within a few weeks, by the administration of suspended matter separated by filtration from goitre-producing waters; and can be cured by taking thymol, one of the most powerful of gastro-intestinal antiseptics. He has shown that if the source of the toxin be avoided or removed the gland will return to normal size, unless secondary changes have occurred.

It is to be expected that, like other glands, the thyroid may undergo degenerative and retrogressive changes as the result of over-action. Normally at the menopause with the atrophy of the ovary part of its work ceases, and it is conceivable that if it has previously been subjected to undue activity its normal involution may overshoot the mark and lead to hypothyroidism and myxœdema. The last three cases of myxœdema which I have had under observation have all shown, together with severe oral sepsis and very offensive motions, anæmia of the pernicious form, which Dr. William Hunter has for so many years ascribed to lesions in the alimentary tract.

If the thyroid undergoes enlargement to combat undue toxæmia, it is reasonable to suppose that relieving it of part of its burden may cause a simple goitre to shrink, but this, of course, cannot be expected if adenomata or cysts are present. McCarrison has caused goitres to dwindle or disappear by using vaccines prepared from different forms of organisms—staphylococcus, a coliform bacillus, and a spore-bearing bacillus. The good results which he has obtained have led me to try a similar method of treatment, and I have followed out the plan which he adopted. The vaccines which I have generally employed have been prepared from the coliform bacilli of the patient's own bowel. The bacterial growth has been obtained from the fæces by culturing on Musgrave's medium, which consists of beef extract 0·5 gramme, sodium chloride 0·5 gramme, agar 20 grammes, tap water 1000 c.c., and is of an alkalinity of minus 1. This gives a growth of coliform bacilli of fairly constant character. The initial dose has been usually 125,000,000 of the dead organisms, suspended in about 1 c.c. of saline. Subsequently, if the goitre has shown signs of diminishing I have increased the dose weekly by 25,000,000 or 30,000,000. As a rule the injections have been given at weekly intervals.

It is too early to make any definite statement as to the results, but in the few cases, eight in all, treated they have been very encouraging. In one case the goitre disappeared entirely. In all the others it has diminished. As a rule, after the first injection the tumour becomes softer and, after subsequent doses, it gradually gets smaller, although occasionally periods of quiescence supervene. Two of the patients have been able to do up their neck-bands for the first time for several months after the first or second injection. A man who had taken to larger-sized collars is now wearing those of his ordinary size. One girl who had definite stridor, even when lying in bed, has now no embarrassment of breathing except slightly after exceptional exercise. All are charitable enough to say they are better and free from the symptoms which caused them to come for treatment, such as a feeling of suffocation and difficulty in swallowing and breathing.

Another effect has been that, by producing absorption of the parenchymatous enlargement, adenomata previously undetected have become obvious, and operative treatment has in this way been facilitated.

To sum up, the thyroid is a gland a useful function of which is to counteract intoxication. One of the sources of this intoxication is probably the bowel. If the intoxication be proportionately great for the gland, it undergoes hyperplasia and visible enlargement. If the amount of intoxication can be lessened the extra burden is removed and the gland diminishes. This has been done by the use of thymol and of vaccines, especially those prepared from cultures of the coliform organisms obtained from the patient's own intestinal flora.

Queen Anne-street, W.

INDICATIONS OF NERVE LESION IN CERTAIN PATHOLOGICAL CONDITIONS OF BLOOD-VESSELS.

By T. WINGATE TODD, M.B. MANCH., F.R.C.S. ENG.,
PROFESSOR OF ANATOMY, WESTERN RESERVE UNIVERSITY,
CLEVELAND, OHIO, U.S.A.

SOME time ago it became apparent that the vascular symptoms so frequently associated with the sensori-motor syndrome of the affection often laconically designated "cervical rib" were probably produced by a lesion of the nerves supplying the blood-vessels of the arm. It was then obvious that the same explanation might afford a clue to the elucidation of many other obscure conditions. It was therefore my intention to investigate those other diseases to discover, if possible, whether any such relation existed in them between nerves and blood-vessels as has been shown to be present in cervical rib. Being aware of the difficulty of the problem and the many pitfalls which it presents I have been unwilling to write anything further on the subject until I possessed more extensive data than it is possible to submit at present. The appearance, however, of two recent papers bearing on the subject of blood-vessel changes consequent on nervous lesions would seem to make it advisable to review the work of recent investigators as a preliminary to further research.

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REMARKS ON

ABNORMAL INTRA-ABDOMINAL DEVELOPMENTAL ADHESIONS

BY H M W GRAY, M B, C M ABERD, F R C S EDIN,
SURGEON AND LECTURER ON CLINICAL SURGERY, ROYAL INFIRMARY, ABERDEEN, SURGEON TO THE ROYAL HOSPITAL FOR SICK CHILDREN ABERDEEN,

AND

WILLIAM ANDERSON, M B, CH B ABERD, F R C S EDIN

(Concluded from p 1300)

TREATMENT

General remarks —Where such "developmental adhesions" are suspected we consider that a central vertical incision is usually the most suitable, as it can be varied in height and length according to necessity We prefer a right paracentral incision with displacement of the rectus muscle outwards During any intra abdominal operation, if the condition of the patient permits, we make a systematic investigation of all organs, because we believe very strongly in the theory that disease of one abdominal organ deleteriously affects the function of others, and because in many cases it is difficult to adjudicate precisely cause and effect For example, the relationship between appendicitis and kinks and duodenal ulcer is still under discussion If "adhesions" are tense enough to prevent perfectly free movement of the part concerned, we think it is justifiable to treat them, although there may not have been hitherto any symptoms referable to their presence Such adhesions are potential of evil, and we think that prevention is better than cure We have noted that these adhesions are most likely to give trouble in middle aged people

We do not approve of the small "button hole" incision too often made in interval operations for appendicitis It is futile to imagine that the lower end of the ileum can be satisfactorily examined through a tiny opening, and we feel that this should be done in every case, however definite the symptoms of appendicitis are

We think that the operation of "short circuiting" the bowel, and still more that of excision of the colon, is justifiable in only a very few cases such as those in which the transverse colon is densely adherent to either the ascending or descending colon, or possibly where the poor condition of the patient does not admit of the manipulations necessary to thoroughly investigate and treat cases in the way we suggest

An important point in deciding as to whether any of these developmental adhesions are the cause of symptoms, be they affecting gall bladder, duodenum, ileum, or colon, is the presence of [illegible] hollow organ [illegible] the cæcum is [illegible] pathological adhesions in the colon beyond it, if it is dilated, hypertrophied, and possibly dropped, or unusually mobile, there is certain to be obstruction at some of the flexures, in the majority of cases at the hepatic

Owing to the fact that there is considerable exposure and handling of different parts of the abdominal contents during operation the bowel is apt to remain quiescent for many hours and adhesions may form during that time as the result of the irritation At the end of 18 to 24 hours, therefore one's object should be to stimulate the bowel to action by the giving of food of reasonable quality and quantity if the patient is not sick, and by the administration of evacuating enemata, and such stimulants to peristalsis as eserine, pituitrin, or mild aperients If distension is troublesome calomel in repeated small doses seems to act as well as anything A very usual procedure on the afternoon of, at latest, the third day is to give 1 gr of calomel every hour from three to five doses, if the bowels have not moved by 7 A M next morning to give a dose of salts, and if no action by 10 A M to give a turpentine enema Every second day if the bowels do not move spontaneously an aperient is given Solid food is given as soon as patients feel inclined for it, and as convalescence progresses such foods as will help to promote peristalsis and prevent constipation are recommended.

The patients are placed in the Fowler position immediately after operation and usually remain in that position for 24 hours Thereafter they can assume whatever position is most comfortable, and are encouraged and helped to change their position fairly frequently

(a) *Terminal ileal membrane* —This should be incised, as indicated in the illustration (Fig 5) parallel to the anti mesenteric border of the ileum in such a manner that the edge of the upper flap of the membrane can be stitched to *the bowel at its mesenteric attachment taking care not to* injure or occlude vessels in so doing The raw area which is exposed when the ileum is made to assume its proper position can, in many cases, be obliterated by sliding and suturing the peritoneum as shown (Figs 5 6, 7) If this cannot be done without kinking the bowel, it is apparently equally satisfactory to transplant a suitably sized piece of omentum, carefully tucking in the raw edges thereof As a point of technique it is better, in fixing the omentum, to push the needle first through the omentum and then through the peritoneum of the bowel or mesentery Otherwise the omental flap is difficult to retain at first in proper position as it is lifted away while the sutures are being drawn through

(b) *Jackson's membrane* should be very freely divided between ligatures, along the outer side of the colon Care must be taken that the colon is thoroughly freed from any bands which may limit its motility This is especially important at the hepatic flexure which should at the end of the proceeding have a rounded instead of an acute curve The mistake usually made is in not dividing the membrane freely enough or high enough (Fig 8) Only in rare instances is it necessary to transplant a piece of omentum to cover raw areas

(c) *Cæcum mobile* —Because, in our opinion, this condition, when causing symptoms, is practically always associated with kinking at the hepatic or *splenic flexures* the first indication is to free those kinks It is then a matter for the operator to judge as to whether, in order to ensure success, he will fix the cæcum and lower part of the ascending colon or not by some such procedure as that suggested by Wilms—namely, to incise vertically and raise the dorsal parietal peritoneum of the flank in such a manner that the outer part of the cæcum and ascending colon can be inserted beneath it The edge of the peritoneum is sutured to the *anterior aspect of these organs*

(d) *Splenic kink* —The adhesions causing this kink are treated in exactly the same way as those forming Jackson's membrane

(e) *Meso-sigmoid adhesions* —The treatment of these is best indicated by the accompanying illustrations (Figs 9 and 10) which show the condition after division and suture respectively of the adhesions [1] In some cases, owing to the irregular raw surface left after their separation or where rapidity is important owing to *the condition of the patient*, perfectly satisfactory results can be obtained by inserting a detached flap of omentum and fixing it in position by a few sutures

Where adhesions bind the ascending and transverse, or transverse and descending colons very extensively together, we believe that a short-circuiting operation is preferable, and in very bad cases, in order to save time, it is probably wise to make an ileo proctostomy where meso sigmoid adhesions exist (see our previous paper)

(f) *Gall bladder adhesions* —We believe that where adhesions exist which seriously interfere with the emptying of the gall bladder and give rise to definite symptoms, cholecystectomy should be the operation of choice So far as we can make out the tendency in dealing with these cases has been to make merely a cholecystostomy Prolonged drainage brings about, no doubt, a shrinking of the walls of the gall bladder, which after the fistula has healed, prevents recurrence of symptoms for a variable period The danger in such cases, whether the adhesions have been divided or not, is that sacculation and kinking will sooner or later recur, with repetition of the same severe symptoms This actually occurred in two of our cases Where these adhesions have seriously tucked up the pylorus or duodenum, causing gastrectasis or gastroptosis, we think that it is advisable, in order to procure more rapid convalescence and to obviate future disability, to perform a posterior gastro enterostomy

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Now if there is any organism that varies in its cultural, morphological, and pathogenic properties it is the cholera vibrio, and from the latest investigations, with the most modern bacteriological technique, it is stated that "the power of anti cholera serum to agglutinate the vibrio is very variable," and "that because either agglutination or Pfeiffer's test is negative, it does not follow that in the presence of an epidemic a vibrio not responding to these tests should not be considered to be a *cholera vibrio for all* practical purposes". Under the circumstances I consider that from our investigations it is proved that this well water was infected with material from a cholera patient, and that it was possible many other wells and tanks and water vessels *were infected in a similar way This is as far as* any observers have ever got in the bacteriology of the disease, and until we know more we must assume that cholera is spread in this way I maintain that for the practical sanitarian this is enough to work upon Given an outbreak of cholera whether imported or indigenous, any sample of water from which a pure culture of the comma vibrio is obtained is sufficient evidence for active preventive measures The municipal laboratory cannot however, for obvious reasons undertake that high standard of research which this question deserves

I am strongly *of opinion that the cholera vibrio after* it leaves the human body undergoes such rapid modifications in water, milk food, soil or even on the soiled clothes and discharge of the suffering person, as to render it almost unrecognisable The organism, fortunately for the human race, is very faintly resistant to external influences, and it is for this reason that, when an outbreak occurs prompt sanitary measures can control it How far, and how long, a cholera vibrio can retain its virulence, externally to the human body, and how far the other organisms in water affect it, are still subjects for further investigation How the attenuated organism found in water, can again retain its virulence when entering the body of its former host is what we want to know Until then the practical sanitarian must consider all water containing a comma vibrio, in the presence of a cholera outbreak a danger, which by all the means in his power should be attacked

Without entering into the bacteriology of the innumerable cholera like vibrios found in water and fæces, the presence of a comma vibrio in water during a cholera epidemic is evidence of contamination from a case of cholera It is, as I have already pointed out, held that *infected water* is always the cause of the spread of cholera and that personal contact has little to do with the spread of the disease Now, it is impossible to analyse the evidence collected during the outbreak in Bombay without coming to the conclusion that the personal element has a great deal to do with the spread of cholera in India Without labouring too much on the habits and customs of the people, I am strongly of opinion that the spread of cholera is greatly due to direct *infection from* person to person by means of the discharges, contaminated hands food, vessels, milk and water, and flies The filthy privy baskets overflowing into open drains and thus soaking into subsoil or storm water drains the position of the water sewer pipes and the common washing places are a constant danger at any time but in the presence of cholera must contribute to a large extent to the circumstances favouring the spread *of the disease For example* on visiting a person suffering from the disease, he or she will be surrounded with relatives and friends handling the patient Many will be found occupying the same room, sleeping on the floor, they all use the same privy and washing place and eat from the same vessels, the water is stored in wooden iron, earthenware or other vessels in the living room cookroom or *nahani* for days together The friends and relatives will wash the dead body and take it to the burial ground or burning ghat and afterwards wash in the nearest tank or bathing place without any disinfectant precautions Anyone familiar with the homes of the poor can easily understand how cholera is thus spread

Conclusions

What we want to know is how far a person convalescent from the disease or suffering from it in a mild unrecognised form, can be a danger to the community as a 'carrier' May such a case, unknowingly, convey the infection to *nahanis*, privies, washing and drinking vessels or the food supply, or even a public water supply, and thus start an outbreak in the neighbourhood?

May and June were unusually hot months The municipal water-supply had been curtailed in B Ward On June 10th, and some days previous, large collections of Mahomedans congregated in *Mandvi, Umerkhadi, and Chuckla. Water* had to be provided for these large crowds Given, then, a few cases of cholera in these sections, it is possible that facilities were offered to the pollution of the temporary water supply provided for the people, which was infected *and thus caused the sudden rise in the incidence of the* disease As soon as the temporary supply of water was abolished, tanks and wells disinfected and cleaned, the disease began to disappear According to the bacteriological report the cholera vibrio was only found in one tank, but as many of the others had already been cleaned or disinfected it is not to be expected that this very volatile organism would be found there

This is nothing new in the epidemiology of cholera, as witness the fairs held in India Large crowds of people assemble, cholera breaks out and is checked only when the fair is over or the proper sanitary precautions have been taken to prevent the pollution of the water supply, and other sanitary precautions observed with regard to food and cleanliness of the camps, and to the destruction of all infected material Many persons leaving the fairs perfectly *well are attacked or die on their* way home or recover and return to their homes convalescent, thus becoming a focus to spread the disease elsewhere Facilities of transit are so many that the disease may be carried hundreds of miles in a few hours Bombay city is a very small unit of the Indian Empire, *or* even of the Bombay Presidency, but it is the haven of refuge for the destitute as well as the prosperous in times of famine and sickness in the neighbouring districts, and thus pays the penalty of its position The difficulties of obtaining information from the friends and relatives of infected people, and the passive resistance to any sanitary measures, make it extremely difficult to trace cases of infectious disease or to adopt measures for their control The indifference and carelessness on the part of the poor people to accept any advice add to the difficulties of control, while the ignorance of any measures of personal hygiene and the rooted objection to any innovation in their domestic arrangements form obstacles difficult to overcome

The bacteriological examinations were carried out by the municipal analyst, Dr L Joshi, and his assistant, Mr Pansari

Bombay

A CONTRIBUTION TO THE ETIOLOGY OF RHEUMATOID ARTHRITIS

BY H WARREN CROWE M D OXON, M R C S ENG,
L R C P LOND

THE etiology of chronic arthritis has recently gained prominence from the accidental discovery by many therapeutists that the administration of vaccines for such apparently diverse conditions as post nasal catarrh, pyorrhœa bronchitis gastritis, cystitis, colitis (to name those that first occur to the mind) is frequently followed by the disappearance of muscular and arthritic pains It has been my personal experience, shared doubtless by others, that this rather remarkable by product of induced immunisation occurs when a streptococcus has been found to be the offending organism It seldom occurs with any other microbe save only in that form of chronic arthritis which is most commonly designated rheumatoid arthritis Here vaccines prepared from bacillus coli staphylococcus aureus as well as streptococci isolated from some local area of infection, have in some cases given relief to this otherwise intractable malady

A paper by Dr R McLeod Veitch,[1] of Harrogate illustrates remarkably *clearly* this point *in regard to* rheumatoid arthritis Where he finds a localised bacterial focus vaccines give relief to the general condition, where no focus is found a variety of similar vaccines produce no effect whatever On the face of it then one would say that rheumatoid arthritis is a disease which may be produced by a variety of infections It may be so At the same time there is at least one other possible explanation, for example there might be a primary organism and the successful vaccine

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[1] *Journal of Vaccine Therapy* vol i, 1912, p 269

Now if there is any organism that varies in its cultural, morphological, and pathogenic properties it is the cholera vibrio, and from the latest investigations, with the most modern bacteriological technique, it is stated that "the power of anti cholera serum to agglutinate the vibrio is very variable," and "that because either agglutination or Pfeiffer's test is negative, it does not follow that in the presence of an epidemic a vibrio not responding to these tests should not be considered to be a *cholera vibrio for all* practical purposes". Under the circumstances I consider that from our investigations it is proved that this well water was infected with material from a cholera patient, and that it was possible many other wells and tanks and water vessels *were infected in a similar way This is as far as* any observers have ever got in the bacteriology of the disease, and until we know more we must assume that cholera is spread in this way I maintain that for the practical sanitarian this is enough to work upon Given an outbreak of cholera whether imported or indigenous, any sample of water from which a pure culture of the comma vibrio is obtained is sufficient evidence for active preventive measures The municipal laboratory cannot however, for obvious reasons undertake that high standard of research which this question deserves

I am strongly *of opinion that the cholera vibrio after it* leaves the human body undergoes such rapid modifications in water, milk food, soil or even on the soiled clothes and discharge of the suffering person, as to render it almost unrecognisable The organism, fortunately for the human race, is very faintly resistant to external influences, and it is for this reason that, when an outbreak occurs prompt sanitary measures can control it How far, and how long, a cholera vibrio can retain its virulence, externally to the human body, and how far the other organisms in water affect it, are still subjects for further investigation How the attenuated organism found in water, can again retain its virulence when entering the body of its former host is what we want to know Until then the practical sanitarian must consider all water containing a comma vibrio, in the presence of a cholera outbreak a danger, which by all the means in his power should be attacked

Without entering into the bacteriology of the innumerable cholera like vibrios found in water and fæces, the presence of a comma vibrio in water during a cholera epidemic is evidence of contamination from a case of cholera It is, as I have already pointed out, held that *infected water* is always the cause of the spread of cholera and that personal contact has little to do with the spread of the disease Now, it is impossible to analyse the evidence collected during the outbreak in Bombay without coming to the conclusion that the personal element has a great deal to do with the spread of cholera in India Without labouring too much on the habits and customs of the people, I am strongly of opinion that the spread of cholera is greatly due to direct *infection from* person to person by means of the discharges, contaminated hands food, vessels, milk and water, and flies The filthy privy baskets overflowing into open drains and thus soaking into subsoil or storm water drains the position of the water sewer pipes and the common washing places are a constant danger at any time but in the presence of cholera must contribute to a large extent to the circumstances favouring the spread *of the disease For example* on visiting a person suffering from the disease, he or she will be surrounded with relatives and friends handling the patient Many will be found occupying the same room, sleeping on the floor , they all use the same privy and washing place and eat from the same vessels , the water is stored in wooden iron, earthenware or other vessels in the living room cookroom or *naham* for days together The friends and relatives will wash the dead body and take it to the burial ground or burning ghat and afterwards wash in the nearest tank or bathing place without any disinfectant precautions Anyone familiar with the homes of the poor can easily understand how cholera is thus spread

Conclusions

What we want to know is how far a person convalescent from the disease or suffering from it in a mild unrecognised form, can be a danger to the community as a ' carrier ' May such a case, unknowingly, convey the infection to *nahanis*, privies, washing and drinking vessels or the food supply, or even a public water supply, and thus start an outbreak in the neighbourhood ?

May and June were unusually hot months The municipal water-supply had been curtailed in B Ward On June 10th, and some days previous, large collections of Mahomedans congregated in *Mandvi, Umerkhadi, and Chuckla. Water* had to be provided for these large crowds Given, then, a few cases of cholera in these sections, it is possible that facilities were offered to the pollution of the temporary water supply provided for the people, which was infected *and thus caused the sudden rise in the incidence of the* disease As soon as the temporary supply of water was abolished, tanks and wells disinfected and cleaned, the disease began to disappear According to the bacteriological report the cholera vibrio was only found in one tank , but as many of the others had already been cleaned or disinfected it is not to be expected that this very volatile organism would be found there

This is nothing new in the epidemiology of cholera, as witness the fairs held in India Large crowds of people assemble, cholera breaks out and is checked only when the fair is over or the proper sanitary precautions have been taken to prevent the pollution of the water supply, and other sanitary precautions observed with regard to food and cleanliness of the camps, and to the destruction of all infected material Many persons leaving the fairs perfectly well *are attacked or die on their way home or recover and* return to their homes convalescent, thus becoming a focus to spread the disease elsewhere Facilities of transit are so many that the disease may be carried hundreds of miles in a few hours Bombay city is a very small unit of the Indian Empire, or even of the Bombay Presidency, but it is the haven of refuge for the destitute as well as the prosperous in times of famine and sickness in the neighbouring districts, and thus pays the penalty of its position The difficulties of obtaining information from the friends and relatives of infected people, and the passive resistance to any sanitary measures, make it extremely difficult to trace cases of infectious disease or to adopt measures for their control The indifference and carelessness on the part of the poor people to accept any advice add to the difficulties of control, while the ignorance of any measures of personal hygiene and the rooted objection to any innovation in their domestic arrangements form obstacles difficult to overcome

The bacteriological examinations were carried out by the municipal analyst, Dr L Joshi, and his assistant, Mr Pansari

Bombay

A CONTRIBUTION TO THE ETIOLOGY OF RHEUMATOID ARTHRITIS

BY H WARREN CROWE M D OXON , M R C S ENG , L R C P LOND

THE etiology of chronic arthritis has recently gained prominence from the accidental discovery by many therapeutists that the administration of vaccines for such apparently diverse conditions as post nasal catarrh, pyorrhœa bronchitis gastritis, cystitis, colitis (to name those that first occur to the mind) is frequently followed by the disappearance of muscular and arthritic pains It has been my personal experience, shared doubtless by others, that this rather remarkable by product of induced immunisation occurs when a streptococcus has been found to be the offending organism It seldom occurs with any other microbe save only in that form of chronic arthritis which is most commonly designated rheumatoid arthritis Here vaccines prepared from bacillus coli staphylococcus aureus as well as streptococci isolated from some local area of infection, have in some cases given relief to this otherwise intractable malady

A paper by Dr R McLeod Veitch,[1] of Harrogate illustrates remarkably *clearly* this point *in regard to* rheumatoid arthritis Where he finds a localised bacterial focus vaccines give relief to the general condition , where no focus is found a variety of similar vaccines produce no effect whatever On the face of it then one would say that rheumatoid arthritis is a disease which may be produced by a variety of infections It may be so At the same time there is at least one other possible explanation , for example there might be a primary organism and the successful vaccine

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[1] *Journal of Vaccine Therapy* vol i , 1912, p 269

Incidence of the Staphyloid Coccus A.

In presenting reliable data on this point it is necessary to exclude all cases examined prior to the complete differentiation of this organism from the other members of the group. I can only therefore employ figures for the last nine months or so.

Table of Organisms Cultured from Urine.

In—	Staphyloid coccus A.	Strepto-cocci.	Bacillus coli.
14 cases of rheumatism	5	8	0
3 cases of neuritis	2	3	0
22 cases of rheumatoid arthritis	14	6	5

In regard to rheumatoid arthritis and staphyloid coccus A the proportion 14 to 22 is probably considerably understating the case, because three of the remaining cases gave marked [illegible] o more reacted in such a way [illegible] at it was distinctly borne in [illegible] A was pathogenic in those individuals. If these additional figures are added, we find that out of 22 cases 19 were almost certainly infected by staphyloid coccus A.

Treatment.

In the following article Dr. A. Bertram Soltau gives his impressions of the treatment of rheumatoid arthritis by vaccines, both autogenous and stock. The most valuable of the latter turned out to be one prepared from two strains of staphyloid coccus A, each isolated from a case of acute rheumatoid arthritis following parturition, in which I found the organism present in large numbers and in pure culture in the urine. Under this heading, then, I will only urge extreme caution in the use of staphyloid vaccine, if success is to be achieved in arthritis. Even a dose of 500,000 may cause a most unpleasant reaction, and until the urine is free from organisms, more than 5,000,000 can seldom be given. It is for this reason more than any other that it seems to me important for the present to keep a title which will distinguish this germ from the staphylococci.

In conclusion, one must admit that there is a long gap between describing an organism present in a disease and proving a direct pathological connexion; only prolonged experience and careful investigation will lead to the truth. I trust, however, that I have made good this point: that a certain organism, styled temporarily for the purposes of this paper "staphyloid coccus A," occurs with remarkable frequency in rheumatoid arthritis. Is the connexion between them causal, or is it merely casual?

Yelverton, Devon.

A NOTE ON

THE USE OF VACCINES IN THE TREATMENT OF RHEUMATOID ARTHRITIS.

BY A. BERTRAM SOLTAU, M.D. LOND., F.R.C.S. ENG.,
PHYSICIAN, SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

THE treatment of rheumatoid arthritis has presented so many difficulties, and has so frequently been followed by failure or by relapse, inducing a feeling of hopelessness in both patient and practitioner, that any therapeutic measure which gives more hopeful results would be welcome.

Many investigators [illegible] cause for the disease, [illegible] and some encouragi[illegible] been reported. The variety of organisms which have been [illegible] lesions are due to many [illegible] e absence of any constant [illegible] obstacle to any marked advance in treatment.

In the preceding article Dr. H. Warren Crowe describes several "staphyloid" cocci ("staphyloid" on account of their resemblance to staphylococci), one of which, staphyloid coccus A, he has found to recur with remarkable frequency in cases of rheumatoid arthritis. As I have had the opportunity of using the vaccine prepared therefrom in a considerable number of cases a brief account of the results obtained may prove of interest.

A certain proportion of the cases showed a single infection with coccus A, whilst in the others, which formed the majority, the infection was mixed, the other co-existing organism being frequently a streptococcus, and occasionally bacillus coli communis. In the cases where a mixed infection was present the clinical course followed has been to treat the patient first with a vaccine prepared from what we have regarded as the secondary organism, streptococcus, bacillus coli, &c. It is noteworthy that whilst the joint condition had been thereby ameliorated and the patient has experienced a sense of improved well-being, a complete arrest of the articular lesions has not been obtained by the use alone of the vaccine of the secondary organism, but the diminution of the latter, as proved by cultural tests on the urine, has paved the way for the use of coccus A vaccine. The subsequent employment of the latter has then been followed by a very marked improvement in the arthritis, amounting in some cases to an apparent cure. The word "apparent" is used advisedly, because the lapse of time is yet far too short to allow of any dogmatic statements as to cure.

As regards the type of case treated, no attempt has been made at selection, and the degree of infection has varied considerably, from cases of long standing in which a large number of joints were affected and osseous deformity was present to a considerable degree, to those in which the infection was in an early stage, little more than neuritic pain in the limbs with slight swelling in a few joints being complained of. In two cases the disease was following an acute pyrexial course.

Of the cases being treated by coccus A vaccine nine are so far advanced that it is possible to form some idea as to their progress.

The system employed has been, in the main, as follows. A [illegible] is made, and if coccus A [illegible] vaccine is now employed. [illegible] two strains, each obtained from an advanced case of arthritis following parturition. As remarked before, in mixed infections the allied organisms are first attacked by autogenous vaccines, coccus A being used either concurrently or subsequently. The question of dosage has been a most difficult one to determine, owing to the marked reaction which sometimes follows even minute doses, such as 500,000. In one case the dose had to be reduced to one of 150,000 at first. It has therefore been necessary to proceed with great caution, and my usual practice has been to start with 500,000, raising the subsequent doses by very small increments of 500,000 or even less. Even then it has not always been easy to prevent excessive reactions, and at times a reversion to the earlier minute doses, after reaching a dose of 3,000,000 or 4,000,000, has been necessitated. The reaction has usually been an exacerbation of joint pains and swelling, with slight rise of temperature. The injections are usually made at weekly intervals, but here again each case has required treatment to be modified by its particular reaction, and one obstinate case only began to improve when the period between the injections was reduced to five days. In two cases, where reaction was so marked as to prevent any real advance, a great help was experienced by the injection of ½ c.c. of 4 per cent. solution of eucaine lactate in carbolised saline with each dose of vaccine.

The clinical course which the cases have followed has been on the whole a similar one, though the degree of rapidity of progress has varied within wide limits. The first favourable symptom has been the diminution of nocturnal pain, in itself no small advance, as it has permitted more sleep and an improvement in general health. The neuritic pain so often complained of has usually been relieved more rapidly than the articular pain. This raises an interesting etiological question as to the actual way in which the infection of rheumatoid arthritis acts. The theory so long maintained that rheumatoid arthritis was a disease of nervous origin, as evidenced by the glossy skin, the trophic nails, and the articular changes so similar to those of the neural arthropathies, may be coördinated to the microbic theory by regarding the infection as primarily one of the peripheral nerves, so leading to trophic changes in the joints and other structures. In two cases where the sole complaint was that of pain in the limbs without any joint changes the isolation by Dr. Crowe of coccus A and the employment of the vaccine was followed by rapid improvement. Both cases were pursuing a maintained pyrexial course, one being so severe as to resemble acute febrile polyneuritis. This is suggestive as the possible line of infection which ultimately

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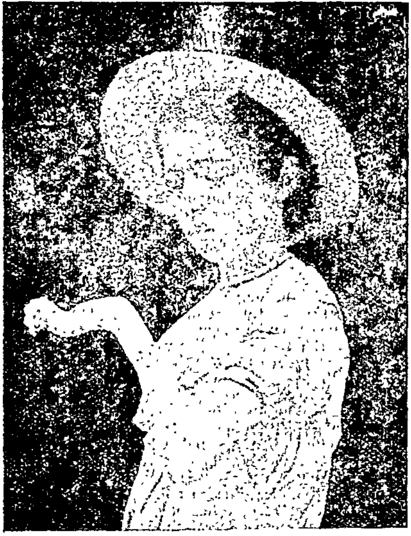
FIG. 1.



From a photograph of the patient before treatment.

flexors; extensors of the fingers more than their flexors. The finer difference between flexor digitorum sublimis and profundus could not be found out. Pronation and supination possible though limited.

The whole examination was attended with many difficulties on account of the nervous condition of the patient, who for a long time resisted the testing of her muscles. A radiograph taken in the course of the present treatment proved an old fracture of the radius about 2 inches below the elbow and of the lower end of the humerus.

This description will suffice to show that this case is an instance of an ischæmic contracture in which the extensors of the wrist and flexors of the fingers suffered most of all; shortening of their antagonists, the flexors of the wrist and extensors of the fingers, explains the deformity of the hand: flexion of the wrist and hyperextension of the fingers.

The treatment was directed first towards overcoming the contraction of the antagonists, thus giving those muscles which suffered worst a chance to recover, and then towards strengthening them. Of course, these two principles were combined, although so long as the stronger muscles were shortened there was practically no possibility of improvement in the weaker ones.

The first part of the treatment was carried out by means of passive movements, massage, and various splints, their shape and application being altered practically every week. I started with an ordinary splint applied to the palmar surface of the hand and forearm reaching as far down as the lower palmar crease [illegible] free. During [illegible] three times a [illegible] in order to stretch the contracted muscles and their tendons and to loosen stiff ligaments and joint capsules. Once I tried to stretch these structures under gas, hoping thus to overcome the resistance more easily; but I soon found that it would have been easier to dislocate the small bones than to stretch the tendons, and therefore I gave up the idea of any forcible action. The Latin proverb, "Gutta cavat lapidem non vi, sed saepe cadendo," here held good. At each sitting I gave massage alternating with movements.

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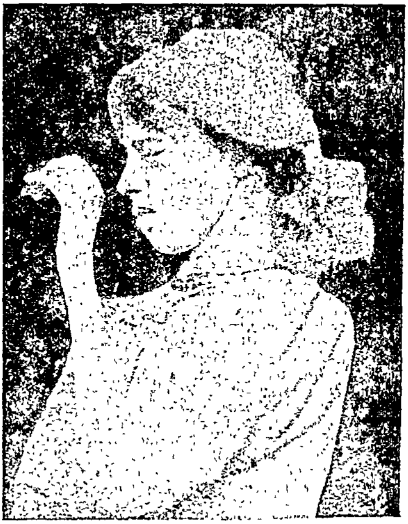
Since November last year the patient has been attending King's College Hospital, where she has been able to receive treatment more regularly—that is, four to five times a week instead of two to three times as before. This had a striking effect: not only did the passive movements improve but also, and what is of more importance, the active movements began to progress rapidly. The muscles began to react to faradism more promptly, with, however, the exception of the flexor digitorum profundus. I applied every day Bier's elastic bandage for about 15 to 20 minutes before the massage and exercises started. This seemed to help in softening all tissues, filling their vessels more abundantly with blood. This procedure was, however, apparently a little painful, or rather felt "queer" as the patient declared. Therefore I substituted active hyperæmia for the passive hyperæmia, giving her every day a hot arm bath before any manipulations were commenced. This proved to be pleasanter and equally beneficial. I have also found elastic extension of great service as applied to the fingers by means of rubber tubes.

Fig. 2 shows the present condition of the hand. The patient can extend her wrist actively and within the possible range. The hyperextension of the metacarpo-phalangeal joints has been overcome, and the patient can flex her fingers so far as to be enabled to hold light objects and to shake hands. A complete extension of the fingers (180°) is not possible yet because of the relative hypertrophy

FIG. 2



From a photograph of the patient nine months later.

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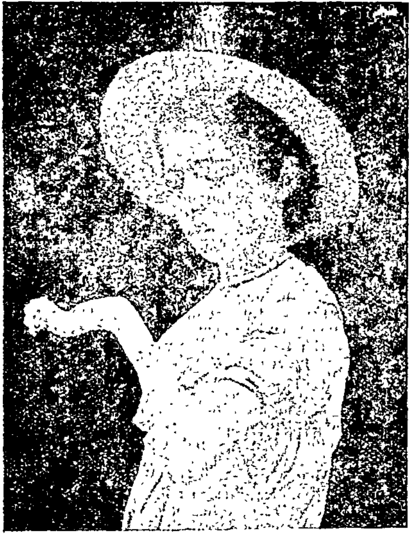

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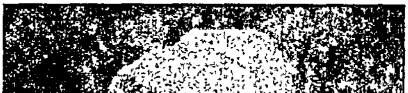

From a photograph of the patient nine months later.

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SPECIAL MEETING OF FELLOWS

Completed Discussion on Alimentary Toxæmia [1]

A MEETING of the Fellows of this society was held on May 7th Sir FRANCIS H CHAMPNEYS, the President, being in the chair

Dr H D ROLLESTON said that as the uninjured skin was comparatively impervious the other surface covering of the body or the mucous membranes constituted the main inlet for microbes and poisons, and of the various mucous tracts that of the alimentary was much the largest, and further was much the most exposed to infection and intoxication It was true that the exposed condition of the alimentary canal was specially protected by the acid gastric juice against microbic activity and by the liver against poisons, but these lines of defence might be overwhelmed and broken down It was easy to argue that a very large number of the diseases to which flesh was heir were due to intestinal toxæmia but the state of our present knowledge made caution necessary Still, although it might be difficult to prove the widespread influence of alimentary toxæmia it was unwise to put aside possibilities until they could definitely be ruled out A difficulty about a wide assumption as to the existence of alimentary toxæmia in the sense in which it was employed in this discussion—namely effects in other parts of the body due to poisons apart from micro organisms—was that many of the effects assumed to be toxic might be due to the passage of micro organisms in small numbers into the circulation, and so into the tissues The hypothesis of such an escape of micro organisms had long been before us in Adami s sub infection with B coli which he (Adami) suggested played some part in the production of cirrhosis, hæmochromatosis, and pernicious anæmia With the improvements in our methods of blood culture bacteriæmia was now more commonly recognised and in the future transient and comparatively non virulent forms might be found to be more common than was generally realised Another point to be borne in mind in this discussion was that the same result—for example nephritis, neuritis, or arthritis—might be brought about in different ways, by different forms of toxæmia, of which alimentary toxæmia was one Therefore in considering the influence of alimentary toxæmia it was not necessary to argue that it was the exclusive cause of certain conditions The large subject of alimentary toxæmia might be divided in the first place into the results due to (1) alterations in the quality and quantity of the foodstuffs introduced into the intestine, (2) the activity of micro organisms in the intestine To refer in the first place to idiosyncrasies to certain foods it was true that the hypersensitiveness might depend on changes in the blood and tissues the intestine being merely the passive transmitter, but on the other hand the digestive processes might be congenitally so modified or the circumstances so altered by a change of the intestinal flora as to produce poisons out of ordinary food—e g, an abnormal cleavage of proteins and other bodies Thus family periodic paralysis might conceivably be due to a congenital metabolic defect, which in the presence of unsuitable food gave rise to the formation of poisons in the intestine (Gardner) This subject had been discussed by Dr Vaughan Harley, who suggested that the idiosyncrasy of some persons to eggs which was now commonly quoted as an example of anaphylaxis was due to the cleavage of lecithin into cholin which might eventually yield the poisonous body neurin Apart from any active toxic properties alteration in the quality and quantity of the food stuffs might so modify metabolism that morbid changes and symptoms were produced Our knowledge of 'the nutritional importance of the presence in dietaries of minute amounts of certain accessory substances which might possibly activate metabolism was only in its infancy To turn to the more commonplace results of excessive quantities of food, an excess in the intake of proteins was commonly regarded as one of the causes of arteriosclerosis by raising the blood pressure either (1)

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yroid It had recently been suggested that an excessive protein diet was specially prone to produce change in the gastro intestinal vessels, so causing 'angina abdominis' In rare instances common salt in excessive quantities had produced œdema in healthy persons, just as it was known to do in nephritis, Rodriguez had recently argued that an excessive intake of salt might, by its influence on metabolism cause some cases of diabetes An excess of carbohydrate food favoured fermentation and in children might cause fever How far an habitual excess of proteins or carbohydrates could, by wearing out the assimilative powers of the tissue, lead to metabolic disorders underlying gout and diabetes was a question which was perhaps hardly within the limits of a discussion on alimentary toxæmia In connexion with this, which was the most obvious aspect of the subject, he would only refer to some rather debatable problems The condition of intestinal infantilism due to chronic diarrhœa might be explained merely as the result of malnutrition Herter and Kendall however, had found that the condition was associated with large numbers of a micro organism (bacillus infantilis) in the stools The suggestion that toxæmia of intestinal origin might produce widespread effects, such as neurasthenia and liability to other infections was in harmony with views put forward by Mr Lane and others It was an attractive hypothesis that changes in the ductless glands either in the direction of proliferative reaction, as in exophthalmic goitre, or of degeneration, as in myxœdema and polyglandular insufficiency, might in certain cases be due to toxins absorbed from the intestine Personally, he quite anticipated that proof would eventually be forthcoming There were some points compatible with the view that exophthalmic goitre might in some instances be the result of alimentary toxæmia Digestive disturbances were very frequent a protein diet usually aggravated the symptoms, indicanuria had in his experience, been common The evidence recently brought by McCarrison to prove that endemic goitre was due to alimentary toxæmia might well suggest that some other form of intestinal toxæmia might induce exophthalmic goitre In both these diseases the blood showed a relative lymphocytosis a change which might be due to intestinal disturbance The relation between synovitis and other forms of arthritis on the one hand, and the alimentary canal on the other hand, provided scope for considerable discussion A E Garrod argued that the transient joint manifestations accompanying erythemas, purpura and urticaria were like the cutaneous changes, toxic The influence of alimentary toxæmia in the production of skin lesions had been fully discussed, and it did not seem unreasonable to suppose that transient attacks of synovitis might be explained similarly The synovitis of acute rheumatism was so transient and left so little or no change that in the presence of the conflicting accounts as to the sterile or infected condition of the joints it might be toxic, and due to the products of streptococci in the alimentary canal The condition of chronic rheumatoid arthritis might be secondary to focal infection in various parts of the alimentary canal. The head retraction and other symptoms of meningism sometimes seen in cases of severe infective diarrhœa in young children appeared to be due to the action of poisons absorbed from the alimentary canal A form of intestinal toxæmia in the new born, due to bacterial infection of the meconium within the first 48 hours, had recently been described by Morse Incomplete evacuation favoured absorption of putrefactive products from the meconium The infant rather suddenly became seriously ill about the third to fifth day, had moderate fever, and commonly cyanosis, twitching, general rigidity, and even convulsions If the

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[1] The Lancet March 15th (p 754) April 19th (p 1093) and 26th (p 1163) and May 3rd (p 1237) and 10th (p 1310) 1913

Medical Societies.

ROYAL SOCIETY OF MEDICINE

SPECIAL MEETING OF FELLOWS

Completed Discussion on Alimentary Toxæmia [1]

A MEETING of the Fellows of this society was held on May 7th Sir FRANCIS H CHAMPNEYS, the President, being in the chair

Dr H D ROLLESTON said that as the uninjured skin was comparatively impervious the other surface covering of the body or the mucous membranes constituted the main inlet for microbes and poisons, and of the various mucous tracts that of the alimentary was much the largest, and further was much the most exposed to infection and intoxication It was true that the exposed condition of the alimentary canal was specially protected by the acid gastric juice against microbic activity and by the liver against poisons, but these lines of defence might be overwhelmed and broken down It was easy to argue that a very large number of the diseases to which flesh was heir were due to intestinal toxæmia but the state of our present knowledge made caution necessary Still, although it might be difficult to prove the widespread influence of alimentary toxæmia it was unwise to put aside possibilities until they could definitely be ruled out A difficulty about a wide assumption as to the existence of 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Dr W KNOWSLEY SIBLEY, speaking of alimentary toxæmia in dermatology, said that a very large number of skin eruptions were the external manifestations of a morbid condition of the general system directly due to a toxæmia of the blood, the result of the absorption of morbid products from the gastro intestinal tract It followed that in all of these conditions proper attention not only to the diet or intake, but also to the excreta or output, was of primary importance for the satisfactory treatment of the skin complaint A system saturated with the toxins absorbed from an overloaded intestine was by no means an uncommon cause of a large number of apparently very different skin diseases In fact, it would be difficult in the present state of our knowledge to name many manifestations (excluding, of course, the various parasitic diseases, both animal and vegetable) which were not in many cases the external expression of a general unhealthy condition of the blood supplying the region, the result of a defective assimilation of the digestive processes, or more generally of a delayed excretion of the waste products of the digestive metabolism The first sign of a want of balance between assimilation and excretion was usually to be found in the colour and condition of the skin, especially in certain regions of the body A pasty or muddy complexion often was one of the signs of malassimilation, or of absorption from the contents of the large bowel or both The results of so called hepatic derangements showed themselves very quickly in the colour of the skin, and pointed to digestive disturbances of various degrees A large group of skin phenomena under the heading of urticarias or nettle rashes had long been recognised as the direct result of gastro-intestinal influences and were designated "stomach rashes" Many other common diseases, both acute and chronic, were also determined by similar processes There was no doubt that the condition of the gastro intestinal tract played a leading part in a large number of cases of eczema, and that proper attention to the regulation of the diet and of the bowels was necessary for their satisfactory treatment Psoriasis, again, was often undoubtedly the result of toxic influences derived from the gastro intestinal tract, and a complete change in the diet from a too nitrogenous to a vegetarian one would often cure an old standing case So again, acne in its various forms was generally associated with an overloaded bowel, and free purgation was often the most efficient treatment, the same might be said of many cases of purpura. Even in many diseases, obviously due to the invasion of micro organisms, such as staphylococci, streptococci, or perhaps even the acne bacillus a toxic condition of the blood due to a systemic poisoning from fæcal or other morbid absorption was necessary for the growth and development of these organisms From his experience he should say that, speaking generally, the immunity of the skin to the development of micro organisms was directly impaired by an obstructed drainage system It was evident that in a large number of cases of general skin diseases it was the mucous membrane rather than the skin which required the chief attention The skin lesion might be controlled and rendered more comfortable by suitable local more or less sedative, protective or bland applications, but it was to the gastro intestinal tract that the main treatment should be directed In every case of skin eruption a systematic examination of this should be made before determining the special line of treatment The whole systemic disturbance might be due to a neglected pyorrhœa alveolaris and to absorption from it either locally or from the stomach after being swallowed and setting up a gastro intestinal catarrh He had discussed the relation between pyorrhœa alveolaris and certain diseases of the skin in a paper read before the Odontological Section of this society two years ago, in which he enumerated a large number of different eruptions that could often be traced to pyorrhœa, and indicated the part it played in alimentary toxæmia, and the treatment for which eruptions was to be directed mainly to the cure of pyorrhœa Some of the diseases he then enumerated were acne vulgaris and rosacea, alopecia (and especially alopecia areata), eczema, erythema, herpes, œdema, seborrhœa, and seborrhœic eczema Leaving the oral cavity and passing on to consider the stomach, there might be a chronic gastritis due to errors of diet, especially from the abuse of alcohol, producing a catarrhal condition affecting not only the stomach but also the hepatic system, and extending its baneful influences on into the duodenum and small intestines More frequently still the colon was found to be loaded with old standing fæcal accumulations, gradual absorption from which produced a general systemic poisoning To sum up, the treatment of a large number of general skin eruptions resolved itself into the scientific treatment of chronic constipation With regard to this most important fact in dermatology, it had to be realised that because a patient had a daily evacuation of the bowels it by no means necessarily followed that he did not suffer from all the morbid effects of toxic absorption from an overloaded colon It was not the frequency of evacuation that was of importance but the quantity, that is to say, that the contents of the large bowel were systematically completely removed, and that there was not an ever increasing residue left behind In other words, it was necessary to be sure that the patient was not passing to day what he ought to have got rid of a week, or perhaps a month, ago He had often remarked that most, if not all, of the drugs which had been found of benefit in the treatment of general diseases of the skin acted chiefly, if not entirely, as laxatives, aperients, or disinfectants of the gastro intestinal tract, and he believed their beneficial effect was due to their direct local action on the gastro intestinal contents rather than to any specific action of the preparations themselves The most popular drug with the older school of dermatologists was arsenic, which was often prescribed as a specific for most of the more or less chronic forms of skin diseases Arsenical preparations were among the most powerful bactericidal agents known to chemists, and, apart from their irritating, and therefore laxative, effects in the mucous membranes it was to this property that their so-called specific action was probably due Mercury, a specific for other skin diseases than those produced by syphilis, was essentially a most powerful germ destroyer Quinine in solution was also a powerful bactericidal agent and disinfectant, and was equally efficacious for this purpose when administered into the stomach or when used for washing out the bladder or other viscus Perhaps the next most popular drug and one which still held its place, was iodide of potassium; and here, again, iodine was now but its use without proper differentiation had caused disappointment just as a similar misuse of the "sour milk" and "Salisbury" treatments had greatly damaged those valuable methods in the eyes of our profession. Those somewhat rare but most intractable cases of recurrent acute erysipelatous eczema had never in his experience failed to respond to thorough intestinal lavage. Many other chronic and refractory cases of various kinds, but all possessing one feature—viz., marked excess of aromatic sulphates in the urine—had responded readily to this treatment. He concluded by drawing attention to three general methods which he had found of the utmost value in all alimentary toxæmias. (a) The administration of a strong solution of radium emanations in water. Lazarus Saubermann, Deutelmoser, Berger, Bickel, and many others had shown that these emanations (1) greatly increased the activity of the various ferments, especially the peptonic and diastatic; (2) markedly improved nerve vitality, especially of the sympathetic system; (3) stimulated the output of the body waste, the carbon dioxide from the lungs by 20 to 60 per cent., the sweat toxins by 40 to 70 per cent., the urinary poisons by 10 to 15 per cent.; (4) had a destructive influence, in large doses, over low forms of bacterial and spore life. (b) The use of oxygen, either inhaled in association with radium emanation, or given in the bath by the double powder of sodium perborate and manganese borate. (c) Professor Bergonié's method of strong, rapid, painless, simultaneous contraction of practically the whole of the muscles which were weighted to increase the contractions. He had found that this method, originally introduced for the rational treatment of obesity (in which it had proved most effective), was most helpful in alimentary toxæmia. It braced up the abdominal walls and also the atonic intestinal canal; it emptied the lymph spaces between the muscles and quickened the often stagnant lymph circulation, stimulated the whole nervous system, and speedily dissipated those feelings of malaise and misery which made the life of the sufferer from alimentary toxæmia so wretched, paving the way if allowed to go unchecked for that most intractable form of neurasthenia which was at once the despair of, and a reproach to, our profession.

Dr. W. Knowsley Sibley, speaking of alimentary toxæmia in dermatology, said that a very large number of skin eruptions were the external manifestations of a morbid condition of the general system directly due to a toxæmia of the blood, the result of the absorption of morbid products from the gastro-intestinal tract. It followed that in all of these conditions proper attention not only to the diet or intake, but also to the excreta or output, was of primary importance for the satisfactory treatment of the skin complaint. A system saturated with the toxins absorbed from an overloaded intestine was by no means an uncommon cause of a large number of apparently very different skin diseases. In fact, it would be difficult in the present state of our knowledge to name many manifestations (excluding, of course, the various parasitic diseases, both animal and vegetable) which were not in many cases the external expression of a general unhealthy condition of the blood supplying the region, the result of a defective assimilation of the digestive processes, or more generally of a delayed excretion of the waste products of the digestive metabolism. The first sign of a want of balance between assimilation and excretion was usually to be found in the colour and condition of the skin, especially in certain regions of the body. A pasty or muddy complexion often was one of the signs of malassimilation, or of absorption from the contents of the large bowel or both. The results of so-called hepatic derangements showed themselves very quickly in the colour of the skin, and pointed to digestive disturbances of various degrees. A large group of skin phenomena under the heading of urticarias or nettle rashes had long been recognised as the direct result of gastro-intestinal influences and were designated "stomach rashes." Many other common diseases, both acute and chronic, were also determined by similar processes. There was no doubt that the condition of the gastro-intestinal tract played a leading part in a large number of cases of eczema, and that proper attention to the regulation of the diet and of the bowels was necessary for their satisfactory treatment. Psoriasis, again, was often undoubtedly the result of toxic influences derived from the gastro-intestinal tract, and a complete change in the diet from a too nitrogenous to a vegetarian one would often cure an old-standing case. So again, acne in its various forms was generally associated with an overloaded bowel, and free purgation was often the most efficient treatment; the same might be said of many cases of purpura. Even in many diseases, obviously due to the invasion of micro-organisms, such as staphylococci, streptococci, or perhaps even the acne bacillus, a toxic condition of the blood due to a systemic poisoning from fæcal or other morbid absorption was necessary for the growth and development of these organisms. From his experience he should say that, speaking generally, the immunity of the skin to the development of micro-organisms was directly impaired by an obstructed drainage system. It was evident that in a large number of cases of general skin diseases it was the mucous membrane rather than the skin which required the chief attention. The skin lesion might be controlled and rendered more comfortable by suitable local more or less sedative, protective or bland applications, but it was to the gastro-intestinal tract that the main treatment should be directed. In every case of skin eruption a systematic examination of this should be made before determining the special line of treatment. The whole systemic disturbance might be due to a neglected pyorrhœa alveolaris and to absorption from it either locally or from the stomach after being swallowed and setting up a gastro-intestinal catarrh. He had discussed the relation between pyorrhœa alveolaris and certain diseases of the skin in a paper read before the Odontological Section of this society two years ago, in which he enumerated a large number of different eruptions that could often be traced to pyorrhœa, and indicated the part it played in alimentary toxæmia, and the treatment for which eruptions was to be directed mainly to the cure of pyorrhœa. Some of the diseases he then enumerated were acne vulgaris and rosacea, alopecia (and especially alopecia areata), eczema, erythema, herpes, œdema, seborrhœa, and seborrhœic eczema. Leaving the oral cavity and passing on to consider the stomach, there might be a chronic gastritis due to errors of diet, especially from the abuse of alcohol, producing a catarrhal condition affecting not only the stomach but also the hepatic system, and extending its baneful influences on into the duodenum and small intestines. More frequently still the colon was found to be loaded with old-standing fæcal accumulations, gradual absorption from which produced a general systemic poisoning. To sum up, the treatment of a large number of general skin eruptions resolved itself into the scientific treatment of chronic constipation. With regard to this most important fact in dermatology, it had to be realised that because a patient had a daily evacuation of the bowels it by no means necessarily followed that he did not suffer from all the morbid effects of toxic absorption from an overloaded colon. It was not the frequency of evacuation that was of importance but the quantity; that is to say, that the contents of the large bowel were systematically completely removed, and that there was not an ever-increasing residue left behind. In other words, it was necessary to be sure that the patient was not passing to-day what he ought to have got rid of a week, or perhaps a month, ago. He had often remarked that most, if not all, of the drugs which had been found of benefit in the treatment of general diseases of the skin acted chiefly, if not entirely, as laxatives, aperients, or disinfectants of the gastro-intestinal tract, and he believed their beneficial effect was due to their direct local action on the gastro-intestinal contents rather than to any specific action of the preparations themselves. The most popular drug with the older school of dermatologists was arsenic, which was often prescribed as a specific for most of the more or less chronic forms of skin diseases. Arsenical preparations were among the most powerful bactericidal agents known to chemists, and, apart from their irritating, and therefore laxative, effects in the mucous membranes it was to this property that their so-called specific action was probably due. Mercury, a specific for other skin diseases than those produced by syphilis, was essentially a most powerful germ destroyer. Quinine in solution was also a powerful bactericidal agent and disinfectant, and was equally efficacious for this purpose when administered into the stomach or when used for washing out the bladder or other viscus. Perhaps the next most popular drug and one which still held its place, was iodide of potassium; and here, again, iodine was now of the simplified individual, which speaks for itself. The tempting notion of the easy accidental ingress into *the circulating blood of microbes not gifted with intrinsic* powers of penetration is a delusion. Their insertion by trauma into the venules is another matter—a remark that applies to the occasional ingress through abraded or degenerated mucous membrane into the meningo-faucial lymphatic sheaths. Imperfect phagocytosis and subsequent disgorgement in the deeper tissue interspaces is a more common and consequential occurrence. Such liberated organisms would set up thickenings in those situations according to their toxicity, without necessarily leaving any trace of their existence. They could not be recovered and cultivated. Toxins that are ingested into the portal blood may be discharged in the bile or then be modified, and, if not discharged by the lungs or the skin, would eventually be discharged by the kidneys. Failing these emunctory channels, and depending upon the relative viscosity of the fluids within and without the blood-vessels, certain toxic molecular complexes are constantly escaping by diffusion into the lymph. It is to meet this danger that the inception of endarteritis, periarteritis, and sclerosis takes place. It is owing to this liability to escape from the blood during excretory transit and to no other cause. I have endeavoured to fasten attention on this question of the lymphatics during the past few years. The more I have studied them the more is this truth borne in upon me, and the more I am concerned to *champion in my humble way their important rôle in the* mechanisms of disease. Like the indispensable foreign secretary, how many wars has he nipped in the bud by his successful diplomacy carried on over a long period of years, and of which the public are left, by his very success, in entire ignorance? *Credidi—quod propter locutus sum.*

Dr. RALPH VINCENT dealt with the bacteriology of alimentary toxæmia in the infant and child. His classification of the organisms was based upon their growth in and their action upon milk. The four groups were: (1) bacteria producing lactic acid but not producing gas; (2) bacteria producing lactic acid, carbon dioxide, and alcohol; (3) bacteria growing in "pasteurised" milk; and (4) bacteria growing in boiled or "sterilised" milk With regard to the bacteriological analysis of the intestinal dejecta three classes of organisms were commonly observed: (1) obligatory fermentative bacteria; (2) facultative fermentative bacteria; and (3) obligatory proteolytic bacteria. He then discussed the biochemical processes occurring in the alimentary canal of the [illegible] colon toxæmia.

SURGICAL SECTION.

Aberrant Renal Arteries.—Splenectomy.

A MEETING of this section was held on May 6th, Mr. G. H. MAKINS, the President, being in the chair.

Mr. J. HUTCHINSON read a paper on Obstruction of the Ureter by Aberrant Renal Vessels. This was a clinical study of 21 cases operated upon by the surgeons of the London Hospital during the last eight years. The presence of a "tail-artery" (that is, one running from the aorta or renal trunk to the lower pole of the kidney and crossing the ureter), being a congenital condition, would be expected to cause trouble in the first few years. It did so, however, but rarely, the first attack of lumbar or abdominal pain due to obstruction of the ureter coming on in two-thirds of the cases between the ages of 15 and 25 years, very rarely before this. The cases were twice as common in males as in females, and the right kidney was concerned twice as frequently as the left, to judge from the present series. The aberrant artery, accompanied or not by a vein, crossed behind the ureter as a rule; the obstruction due to it had little or no relation to the kidney becoming mobile or floating. The attacks of pain produced by distension of the pelvis were severe, of sudden onset, often attended with vomiting and sweating; the act of vomiting relieved the pain. These attacks were separated at first by months or years, but became more and more frequent, e.g., every few days; they always lasted some hours. Exercise had little relation to the attacks, which might come on when the patient was lying down. Diet and medicines had no effect upon them; heat applied to the loin and rest *on the affected side* usually relieved. An important point was that there were no urinary symptoms in these cases, and it was probably this that led to the long delay in recognising their nature. In most of the cases brought forward the patient had endured the attacks for several years before obtaining surgical relief. It was essential to operate by lumbar incision before permanent hydronephrosis had been established and the kidney had become disorganised. The aberrant artery should be divided, and the kinked (often much distorted) ureter and pelvis straightened out. From the evidence of cases up to the present time it was not advisable to attempt any form of plastic operation upon the pelvis and ureter, as suppuration and escape of urine were certain to spoil the result. Nephrectomy was necessary in about one-fifth of the series. If the kidney were found too mobile it should be anchored in place after division of the aberrant vessels. Attention was especially drawn to the question of diagnosis of the condition, and a detailed account of the symptoms, &c., was given. Now that the X rays enabled renal calculus to be detected easily the difficulty should be much lessened. The slight resemblance to appendicitis attacks might lead to removal of the appendix, but a lumbar exploration of the kidney should be resorted to in every suspicious case.

Mr. FRANK KIDD showed two cases of Enlarged Spleen Cured by Splenectomy. 1. "*Banti's disease*," or "*splenic anæmia*." This case was that of a girl referred by Sir Bertrand Dawson. She was aged 17 years at the onset, and was operated on in the third stage of the disease, two years after the onset. She showed all the classical signs of the disease: enlarged spleen, secondary anæmia, pigmentation of skin, leukopenia, periodic gastric hæmorrhages, ascites, œdema of legs, small cirrhotic liver, and wasting (3 st.). There was an absence of syphilitic or alcoholic history. The operation proved difficult owing to adventitious adhesions containing enormously dilated veins, which tore easily, but the spleen was successfully removed through a 5-in. vertical incision through the left rectus muscle. The result, seven months later, was that pigmentation and anæmia were gone; there was no ascites or œdema; the blood-count was normal, save for a slight lymphocytosis; the scar was sound. The patient never felt better in her life. A chart was shown of a series of blood-counts made before and after removal of the spleen. Mr. Kidd shortly reviewed the history of the clinical conception of "Banti's disease," and brought forward some post-mortem evidence to show that the symptom-complex could be brought about by more than one cause. The constant cause appeared to be anything which could produce engorgement or obstruction of the portal venous system. Seeing the extraordinary amelioration of symptoms brought about by splenectomy in many of these cases, Mr. Kidd suggested that a trial of splenectomy ought certainly to be made in all cases of cirrhosis of the liver with enlarged spleen. It seemed possible that it was the enlarged spleen which caused the fatal symptoms in cirrhosis of the liver, and its removal in alcoholic cirrhosis might lead to results as brilliant as in the case recorded above. The operation was not more dangerous than omentopexy if a large enough incision were made so as to ensure proper exposure and easy control of deeply placed bleeding points. 2. A woman, referred by Dr. S. M. Mackenzie, of Dorking, who had suffered for six months with attacks of severe pain in the left hypochondrium, the last of which had ended in an attack of peritonitis, since which time the patient had noticed a dragging pain in the left shoulder-joint. A large tumour was found in the left hypochondrium. To exclude renal tumour a ureteric catheter was passed up the left ureter, and the kidney filled with collargol, and skiagraphed. The shadow of the kidney, its pelvis, and the ureter was normal. Operation was as follows. The abdomen was explored through the left rectus. A large spleen was found densely adherent to the diaphragm and removed. The microscopical diagnosis was hypertrophy of the spleen. Convalescence was marred by an attack of broncho-pneumonia at the left lung base, but the wound healed by first intention, and a year later the patient was reported by her medical attendant as being quite well. This was a case of hypertrophy of the spleen. Laspeyres had collected 16 cases where operation had been performed for such a condition. In this case the hypertrophy was the primary factor, followed by attacks of rotation of the pedicle. The last of these attacks ended of the simplified individual, which speaks for itself. The tempting notion of the easy accidental ingress into the circulating blood of microbes not gifted with intrinsic powers of penetration is a delusion. Their insertion by trauma into the venules is another matter—a remark that applies to the occasional ingress through abraded or degenerated mucous membrane into the meningo-faucial lymphatic sheaths. Imperfect phagocytosis and subsequent disgorgement in the deeper tissue interspaces is a more common and consequential occurrence. Such liberated organisms would set up thickenings in those situations according to their toxicity, without necessarily leaving any trace of their existence. They could not be recovered and cultivated. Toxins that are ingested into the portal blood may be discharged in the bile or then be modified, and, if not discharged by the lungs or the skin, would eventually be discharged by the kidneys. Failing these emunctory channels, and depending upon the relative viscosity of the fluids within and without the blood-vessels, certain toxic molecular complexes are constantly escaping by diffusion into the lymph. It is to meet this danger that the inception of endarteritis, periarteritis, and sclerosis takes place. It is owing to this liability to escape from the blood during excretory transit and to no other cause. I have endeavoured to fasten attention on this question of the lymphatics during the past few years. The more I have studied them the more is this truth borne in upon me, and the more I am concerned to champion in my humble way their important rôle in the mechanisms of disease. Like the indispensable foreign secretary, how many wars has he nipped in the bud by his successful diplomacy carried on over a long period of years, and of which the public are left, by his very success, in entire ignorance? *Credidi—quod propter locutus sum.*

Dr. RALPH VINCENT dealt with the bacteriology of alimentary toxæmia in the infant and child. His classification of the organisms was based upon their growth in and their action upon milk. The four groups were: (1) bacteria producing lactic acid but not producing gas; (2) bacteria producing lactic acid, carbon dioxide, and alcohol; (3) bacteria growing in "pasteurised" milk; and (4) bacteria growing in boiled or "sterilised" milk With regard to the bacteriological analysis of the intestinal dejecta three classes of organisms were commonly observed: (1) obligatory fermentative bacteria; (2) facultative fermentative bacteria; and (3) obligatory proteolytic bacteria. He then discussed the biochemical processes occurring in the alimentary canal of the [illegible] colon toxæmia.

SURGICAL SECTION.

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The PRESIDENT Mr N BISHOP HARMAN Dr A OGIER WARD Mr T GUNTON ALDERTON Mr W MCADAM ECCLES and Mr RICHARD BEVAN discussed the paper

Professor HOBDAY in replying stated that in the cases of ringworm infection from horse or calf seen by him the infection was on the face or arms not on the head It was not generally admitted by veterinarians that cats were subject to scarlet fever or true diphtheria or were especially susceptible to glanders but they might become carriers of contagion The disease known as bird diphtheria had no analogy with human diphtheria

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ROYAL ACADEMY OF MEDICINE IN IRELAND

SECTION OF OBSTETRICS

Congenital Cystic Tumour —Clinical Report of the Rotunda Hospital

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Mr T SPENCER SHEILL exhibited a photograph demonstrating a Congenital Cystic Tumour in an infant situated in the mammary line on the right side After two months as there were no signs of subsidence he withdrew 1 oz of serous fluid with a trocar It again filled up and he *proposed to open the tumour and treat it as an open* wound He gave details of a similar former case —Dr PUREFOY said he was sure Mr Sheill was correct in looking on this as an uncommon form of tumour

Dr H JELLETT read the clinical report of the Rotunda Hospital for the year ending Oct 31st 1912 The report showed that during the year 2339 patients were delivered under the care of the hospital extern department, and 2474 patients were admitted to the maternity wards Of the latter number 338 who were not in labour were discharged undelivered and 2136 were delivered Thus a total of 4475 labours in all were attended by the hospital staff being an increase of 26 on the previous year Ten deaths occurred in the extern department and 11 in the intern being a percentage mortality of 0 42 in the former and of 0 46 in the latter, or a mean percentage mortality of 0 44 The principal event of the year was the opening of the new labour wards. There was a violent outbreak of sepsis from which two patients died, nevertheless, the morbidity rate was lower than the previous year and was represented by 5 53 per cent as against 6 64 During the past year there was no change in the plan of allowing patients out of bed much earlier than was generally held advisable, which had proved most satisfactory and beneficial to the patients The report then dealt with the different complications of labour met with during the year There were 7 cases of unavoidable hæmorrhage in 4 of which the placenta was situated centrally over the cervix In all cases the mother recovered The routine treatment of Braxton Hicks's bipolar version was adopted There was one case of accidental hæmorrhage successfully treated by plugging the vagina There were 24 cases of contracted pelvis in 8 of which delivery was spontaneous in 3 the forceps was applied and in 3 pubiotomy in 4 Cæsarean section and in 4 craniotomy was done In the craniotomy cases the child was dead so no other method of delivery was tried All the mothers recovered There were 10 cases of prolapse and presentation of the cord which were treated in different ways All the mothers recovered and 5 children were born alive There were 14 cases of eclampsia some of a very severe type Twelve mothers recovered and two died The forceps was applied on 79 occasions One mother died as a result of hyperemesis from which she had been suffering for some time Sixty nine children were born alive and 10 dead There were 5 cases of Cæsarean section All the mothers recovered and all the children who were alive when the operation was undertaken were delivered alive One child was delivered dead and putrid as the mother had been for a considerable time in labour before admission There were three cases of pubiotomy in all of which the mothers recovered and the children were delivered alive There was one radical Cæsarean section and one complete hysterectomy to effect delivery in the case of a myomatous uterus Both these patients were septic before operation The case of myoma died on the sixth day the other patient recovered rapidly Particular attention was drawn to the introduction during the year of the operation of excision of thrombosed veins in case of pyæmia During the year 587 patients were

9—i e , 1 87 per cent Of the 9 deaths one occurred the day after admission in a case of incarcerated myoma which had been causing retention of urine for a considerable time The inside of the bladder was gangrenous the urine black and foul smelling and the patient was in a condition of general poisoning One death was from recurrent ovarian papilloma one from carcinoma of the pylorus one from sarcoma of the uterus necessitating extensive intestinal resection one *from chorion epithelioma one from heart failure* after an operation for prolapsus uteri one from acute general peritonitis after operation for tubercular appendages and one in a patient admitted seven months pregnant with high temperature and rapid pulse who became jaundiced with total suppression of urine Hysterectomy for malignant disease was almost the only major operation in which the figures were lower than the previous year The number of operations for myomata was considerable There were 15 *hysterectomies all supravaginal and 24 myomectomies In* a large proportion of cases it was found possible to save the uterus All these cases both hysterectomy and myomectomy recovered Twenty five operations were performed for *prolapse* Wertheim's interposition operation was done in 18 cases Dr Jellett's operation for shortening of the utero sacral ligaments was done in 13 cases in six of which the interposition operation was also performed —Dr PUREFOY thought many of the fatal cases of accidental hæmorrhage were due to the fact that accidental hæmorrhage was met with in patients with organic disease who were badly able to stand the shock attending the hæmorrhage He thought that in these cases vaginal tampons might be left in a little longer He considered that one of the greatest risks and most serious mistakes was undue anxiety to empty the uterus quickly and before the patient had time to rally from the hæmorrhage With regard to the introduction of early rising of patients after their confinement he was by no means convinced from what *he had heard that the* practice was to be recommended nor did he consider the fact that no accidents had been reported in the cases treated as sufficient argument in favour of it He suggested that the treatment might in future produce a number of patients suffering from misplacements, &c It was very interesting the body The two varieties in the dog—the sarcoptis canis a parasite of the usual itch order and the demodex folliculorum—had each its analogue in the human species Both were contagious to man The sarcoptis canis was most virulent in the dog an animal badly affected lost all its hair and had a very offensive smell Cure was difficult and often impossible In sarcoptic mange the dog persistently scratched especially under the forelegs and thighs and when in front of the fire or in a warm room could not keep still If neglected the coat fell off the skin became covered with blood stained scabs and there was a peculiar mousy ' odour Infections and reinfections of the owners of pet dogs and cats by the sarcoptic parasite were common but although the facts were well known the transmission of the parasite was not suspected so often as it ought *to be Lastly ringworm as seen in the horse calf dog and* cat was considered The varieties most commonly met with were ordinary ringworm (tinea tonsurans) and the honeycomb ringworm (tinea favosa) both contagious for man In the country ringworm of calves was common In animals the disease was tolerably easy to cure the best remedies being either tincture of iodine or the alcoholic solution of salicylic acid (Professor Hobday s remarks were well illustrated by numerous lantern slides and pictures)

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Dementia præcox also showed itself with abnormal frequency in the "great family," there being 68 cases, and besides these there were 15 peculiar members who were not improbably slight examples of dementia præcox The author supports with considerable probability of correctness the view of Rudin, of Munich that this form of insanity is a Mendelian recessive In the same way he regards paralysis agitans, of which seven certain and two uncertain cases appeared in the family, as a Mendelian recessive, but naturally with a disease which appears so late in life the evidence in favour of this is much weaker than in the conditions previously mentioned

There was also an abnormal proportion of feeble mindedness amongst the members of the "great family" Dr Lundborg wisely refrains from discussing the heredity of this ill defined condition, which has been regarded as a Mendelian dominant, and the facts he adduces do not add much to our knowledge of the subject Though the author is evidently a believer in Mendelism he apparently also considers that abnormal traits may be gradually eliminated out of the race by marriage with better equipped persons, presumably by a process of blending In breeding was very frequent in the family, and he remarks on the improvement that has apparently taken place in the branches whose ancestors have emigrated and married abroad But recessive traits would not be expected to appear in these circumstances, though still present in a proportion of the children, and there is also the possibility that those persons who had the energy and initiative to escape from the district were on the whole the best specimens of the race

The original founder of the stock was a well to do farmer, and in the earlier generations a few decidedly gifted individuals appeared The family as a whole seems to have gone downhill since then Very few of its members entered the secondary schools, and as a rule their intelligence seems to have been decidedly below the normal The modern representatives are also in a lower social position than their forebears The fecundity of the women was remarkable, and it is also striking that the death rate was lower than the usual death rate in the surrounding population Naturally where the parents were drunkards or bad characters there was a high infantile mortality

In congratulating the author on the completion of this the most important piece of work of its kind, we can re echo his appeal for further research on the same lines There is a natural tendency to investigate only those families in which some striking abnormality appears, and for the moment perhaps the most valuable results are to be obtained from these It is important that as early as possible some agreement should be arrived at as to what are the signs of "degeneration" in human beings, and that such adjectives as "feeble minded" and "neuropathic" should have a definite and precise meaning In the study of human heredity it is essential that every individual of the family should, as here be characterised, and even the miscarriages recorded On the other hand as Dr Lundborg points out, normal breeds would also repay investigation, and a fruitful field of research is here opened up to the medical practitioner, particularly in isolated country districts In this as in other branches of scientific work central organisation and assistance are required We in England can express our envious admiration of the generous help afforded Dr Lundborg in his expensive and arduous task, though the financial part of the assistance fell far short of his actual disbursements No expense seems to have been spared in the publication perhaps to the chagrin of future readers, since the size and weight of the volumes make them very uncomfortable to handle, while the price, £6, renders them inaccessible to many students of the subject, which is very unfortunate

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The Hill Folk, Report on a Rural Community of Hereditary Defectives By FLORENCE H DANIELSON, M A, and CHARLES B DAVENPORT August, 1912 Memoir I Pp 56

The Nam Family A Study in Cacogenics By ARTHUR H ESTABROOK and CHARLES B DAVENPORT August, 1912 Memoir 2 Pp 85

Heredity of Feeble Mindedness Reprinted from the *American Breeders' Magazine* By HENRY G GODDARD, Ph D Vol I, No 3 Bulletin 1 Pp 165 178 1910

A First Study of Inheritance in Epilepsy Reprinted from the *Journal of Nervous and Mental Disease* By C B DAVENPORT and DAVID F WEEKS, M D Vol XXXVIII No 11 Bulletin 4 Pp 641 670 1911

A Study of Heredity of Insanity in the Light of the Mendelian Theory Reprinted from the *American Journal of Insanity* By A J ROSANOFF M D and FLORENCE I ORR, B S Vol LXVIII, No 2 Bulletin 5 Pp 221-261 1911

The Trait Book By C B DAVENPORT February, 1912 Bulletin 6 Pp 52

The Family History Book By C B DAVENPORT September, 1912 Bulletin 7 Price 50 cents Pp 101

THE above are the publications of the Eugenics Record Office, Cold Spring Harbour N Y, and are arranged as Memoirs and Bulletins We are apt to regard a family as a small unit which in itself can have little effect on the community as a whole Nevertheless, this view may be quite erroneous, since it has been clearly shown that by the multiplication of one stock or of two of similar type which intermarry, the social conditions of a whole district may be determined In the neighbourhood of a small town which lies "in a fertile river valley among the New England hills" lives a population among whom feeblemindedness immorality, and alcoholism are particularly common The investigations of the Eugenics Record Office led them to the study of this locality, and it was found by Miss Danielson a "field worker" of this institution, that practically all its less desirable inhabitants could be traced back to one of two original sources—namely, "a shiftless basket maker," possibly of French origin, and an Englishman, both of whom migrated into this district about the year 1800 Their descendants, referred to collectively as the Hill Folk, are described individually with considerable detail in Memoir No 1 Between 1879 and 1889 they absorbed almost one tenth of the whole amount spent by their town in Poor law relief, but in the last decade the proportion had risen to more than a quarter In the past 30 years 16 of them were sentenced for serious offences, mostly of a sexual character, and their punishments imposed a burden on the State of about $10 000 A glance at the extensive pedigree charts shows that feeblemindedness abounds in many of the lines and Professor Davenport has written a special chapter on its inheritance as illustrated among these people In this chapter he puts forward tentatively a theory which differs considerably from that suggested in the memoir previously published by himself and Mr Weeks on the inheritance of epilepsy According to the earlier view, normal development depends on the presence of a gametic factor transmitted in a Mendelian way Its total absence is shown by the development either of epilepsy or feeblemindedness Among the logical consequences of this theory it followed that two feebleminded with an unrelated healthy individual has always resulted in the offspring being all apparently healthy An elaborate genealogical table is given in the second volume, showing the probable descent of the abnormality from one of the parents of the original forefather of the stock, in which it appears that half the children of the forefather carried the concealed abnormality and half were completely free from it, as would be theoretically expected

Dementia præcox also showed itself with abnormal frequency in the "great family," there being 68 cases, and besides these there were 15 peculiar members who were not improbably slight examples of dementia præcox The author supports with considerable probability of correctness the view of Rudin, of Munich that this form of insanity is a Mendelian recessive In the same way he regards paralysis agitans, of which seven certain and two uncertain cases appeared in the family, as a Mendelian recessive , but naturally with a disease which appears so late in life the evidence in favour of this is much weaker than in the conditions previously mentioned

There was also an abnormal proportion of feeble mindedness amongst the members of the "great family" Dr Lundborg wisely refrains from discussing the heredity of this ill defined condition, which has been regarded as a Mendelian dominant, and the facts he adduces do not add much to our knowledge of the subject Though the author is evidently a believer in Mendelism he apparently also considers that abnormal traits may be gradually eliminated out of the race by marriage with better equipped persons, presumably by a process of blending In breeding was very frequent in the family, and he remarks on the improvement that has apparently taken place in the branches whose ancestors have emigrated and married abroad But recessive traits would not be expected to appear in these circumstances, though still present in a proportion of the children, and there is also the possibility that those persons who had the energy and initiative to escape from the district were on the whole the best specimens of the race

The original founder of the stock was a well to do farmer, and in the earlier generations a few decidedly gifted individuals appeared The family as a whole seems to have gone downhill since then Very few of its members entered the secondary schools, and as a rule their intelligence seems to have been decidedly below the normal The modern representatives are also in a lower social position than their forebears The fecundity of the women was remarkable, and it is also striking that the death rate was lower than the usual death rate in the surrounding population Naturally where the parents were drunkards or bad characters there was a high infantile mortality

In congratulating the author on the completion of this the most important piece of work of its kind, we can re echo his appeal for further research on the same lines There is a natural tendency to investigate only those families in which some striking abnormality appears, and for the moment perhaps the most valuable results are to be obtained from these It is important that as early as possible some agreement should be arrived at as to what are the signs of "degeneration" in human beings, and that such adjectives as "feeble minded" and "neuropathic" should have a definite and precise meaning In the study of human heredity it is essential that every individual of the family should, as here be characterised, and even the miscarriages recorded On the other hand as Dr Lundborg points out, normal breeds would also repay investigation, and a fruitful field of research is here opened up to the medical practitioner, particularly in isolated country districts In this as in other branches of scientific work central organisation and assistance are required We in England can express our envious admiration of the generous help afforded Dr Lundborg in his expensive and arduous task, though the financial part of the assistance fell far short of his actual disbursements No expense seems to have been spared in the publication perhaps to the chagrin of future readers, since the size and weight of the volumes make them very uncomfortable to handle, while the price, £6, renders them inaccessible to many students of the subject, which is very unfortunate

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The Hill Folk, Report on a Rural Community of Hereditary Defectives By FLORENCE H DANIELSON, M A , and CHARLES B DAVENPORT August, 1912 Memoir 1 Pp 56

The Nam Family A Study in Cacogenics By ARTHUR H ESTABROOK and CHARLES B DAVENPORT August, 1912 Memoir 2 Pp 85

Heredity of Feeble Mindedness Reprinted from the *American Breeders' Magazine* By HENRY G GODDARD, Ph D Vol I , No 3 Bulletin 1 Pp 165 178 1910

A First Study of Inheritance in Epilepsy Reprinted from the *Journal of Nervous and Mental Disease* By C B DAVENPORT and DAVID F WEEKS, M D Vol XXXVIII No 11 Bulletin 4 Pp 641 670 1911

A Study of Heredity of Insanity in the Light of the Mendelian Theory Reprinted from the *American Journal of Insanity* By A J ROSANOFF M D and FLORENCE I ORR, B S Vol LXVIII , No 2 Bulletin 5 Pp 221-261 1911

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As the earlier editions have been fully reviewed in these lumns it is necessary to refer only to the chief changes in e present edition The work is lengthened by some 30 ges, and there are alterations in a few of the illustrations here is little rewriting but additional sections in some of e chapters give the results of recent work It has been cessary to alter considerably the chapter on leprosy he experiments of Clegg and Duval on the cultivation of e bacillus are given, but the subject is hardly brought up date, as there seems to be no mention of the varying rms and staining reactions of the organism or of the work Rost Bannerman Deycke or Kedrowski In relation cholera and typhoid fever the important question of arriers is discussed Rapid methods of cholera diagnosis s developed for quarantine work are given and the uestion of the recognition of allied spirilla is discussed he chapter on typhoid fever has also received additions n the appendix on diseases of unknown causation recent ork has been incorporated, especially Bernhardt's work on scarlet fever, which seems to indicate that the microorganism concerned is a filter passer, and the researches of Hektoen and Anderson and Goldberger on measles It is stated that typhus fever and Rocky Mountain spotted fever, though similar have now been shown to be distinct The recent important work on anterior poliomyelitis is also briefly sketched There are additions also in the section on plant diseases

The appearance of the work and the printing, as in the previous editions, are good, and the illustrations are well reproduced

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Pye's Surgical Handicraft A Manual of Surgical Manipulations Minor Surgery and other Matters connected with the Work of House Surgeons and Surgical Dressers. Edited and largely rewritten by W H CLAYTON GREENE, B A M B, B C Cantab, F R C S Eng, Surgeon to St. Mary's Hospital Sixth edition Bristol John Wright and Sons Limited, London Simpkin, Marshall, Hamilton Kent and Co, Limited 1912 Pp 595 Price 12*s* 6*d* net

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Lehrbuch der Augenheilkunde Edited by Dr THEODOR AXENFELD Professor of Ophthalmology in Freiburg i Br Third edition Jena Gustav Fischer 1912. Pp 761 Price 15 marks

A NEW edition of Axenfeld's text book of ophthalmology has been called for each succeeding two years The last edition is a considerable improvement upon its predecessors The difficulty of obtaining uniformity of treatment and a good balance in a work written by many authors was conspicuous in the first edition but has now been largely overcome The illustrations have been greatly improved and the coloured plates now form in themselves a very valuable ophthalmoscopic atlas The most recent advances in operative treatment such as trephining for glaucoma are briefly described and illustrated We commend the book warmly to students who are sufficiently acquainted with the German language

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JOURNALS.

IN the *British Journal of Inebriety* for April Dr. H. Crichton Miller enters a vigorous plea for the recognition of the psychological factors in the treatment of alcoholism. He maintains that psychotherapy in one or other of its forms, as persuasion, suggestion, psycho-analysis, or even as restraint (which acts essentially through its mental influence), is competent to cure a very large proportion of inebriates, if due care be exercised to adapt the mode of treatment to the peculiarities of the individual case and if the psychic treatment is supplemented by remedies addressed to other special factors in the etiology, such, for instance, as circulatory disorders or epilepsy. Dr. Miller suggests that a very great financial saving might be effected and much more lasting results might be obtained by using the opportunities of enforced detention in prisons or reformatories for the vigorous and scientific treatment of the chronic drinkers on psychic lines. He also advocates as a cheap and effectual reform the establishment of anti-alcoholic dispensaries for the application of this and other therapeutic measures. An article on Children and Liquor Bars, by Mr. John Newton, deals with some of the undesirable results which have followed from the provisions of the Children Act of 1908 excluding children under 14 years of age from the bars of licensed premises. The writer of the article admits that the very general practice which has come into vogue of leaving the children at the door while the parents are drinking inside is a grave evil, but he believes that it should be possible to find a remedy by further legislation of a coercive character. It is regrettable to observe the inability of sane temperance reformers to realise the fact that, as public opinion is not going to enforce total abstinence, the rational course to pursue should be to reform the public-house so that it need not be a worse place for children than the gutter. A short paper by Professor G. Sims Woodhead on Alcohol and the Undergraduate also appears in this number.

DEATHS OF CENTENARIANS.—The death occurred recently at Hove of Mr. Frederick Halsey Janson, who on Feb. 8th reached his hundredth birthday. Mr. Janson was the oldest solicitor in the United Kingdom, having been admitted in 1835.—The death is announced from St. Petersburg of Mdlle. N. M. Bashmakoff, the *doyenne* of the Russian Red Cross Sisterhood, at the age of 103, who worked in the Crimean war of 1854-6 under the eminent Russian surgeon Pirogoff.

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DEATHS OF CENTENARIANS.—The death occurred recently at Hove of Mr. Frederick Halsey Janson, who on Feb. 8th reached his hundredth birthday. Mr. Janson was the oldest solicitor in the United Kingdom, having been admitted in 1835.—The death is announced from St. Petersburg of Mdlle. N. M. Bashmakoff, the *doyenne* of the Russian Red Cross Sisterhood, at the age of 103, who worked in the Crimean war of 1854–6 under the eminent Russian surgeon Pirogoff.

the maximum temperature was sometimes as high as 60° early in the month, it was as low as 37° just before the middle, but by the 25th it was up to 70°, and on the last four days rose to 81° or 82°. Sharp frost was experienced about the middle of the month, the lowest temperature recorded being 25°. Considered generally, however, the weather was warmer than in any part of this country, as well as drier. Only six or seven days were rainy, and the aggregate fall no more than 0.7 in. Similar changes of temperature were general in the east and north-east of France. At Paris, where the early part of the month was mild and the middle rather cold, the end was only a little less hot than at Berlin, and as a whole the French capital was warmer, having a mean maximum temperature of 59° and a mean minimum of 42°, both values being a degree higher than those at Berlin. Paris was, however, more rainy than Berlin; more or less rain was experienced on nearly half the days, and the total fall amounted to 2.23 in. As in this country, the month was relatively dull, the total sunshine being no more than 151 hours. On the Riviera there was a marked increase of warmth. At Nice, where the mean maximum temperature was 60°, and the mean minimum 45°, the shaded thermometer rose to 70° or above on three afternoons, but the weather was never so hot as during the latter days of the month at Paris. Rain occurred on nine days, and yielded a total of 3.7 in., but generally the weather was very fine. Much more rain fell at Biarritz, and the weather generally, although nearly as warm as at Nice, was far less fine. Several days were rainy throughout, and the aggregate for the month was as much as eight inches, more than three times the total at Kew. In Italy also the month was more or less wet, especially over the northern half. During the first fortnight, and occasionally later, rain fell in large quantities, that at Rome almost equalling the heavy total at Biarritz. The first fortnight was, too, very cool for the time of year, the temperature barely exceeding that in London. Subsequently, however, there was a very appreciable increase of warmth. At Madeira the temperature was little affected by the northward march of the sun, and the mean maximum was about the same (64°) as during the preceding month, while the mean minimum (49°) showed but slight variation. As a rule the weather was dry and bright, but during the first fortnight rain occurred on eight days.

MANUAL TRAINING

THE new education, of which so much is heard nowadays, is in reality the old education—i.e., the ideal of Socrates. That is to say, it is drawing out knowledge, and not cramming the pupil with facts as a chicken is crammed with food. And in modern education manual training is gradually becoming more and more common, though not yet as common as it should be. The Penal Reform League has just reprinted a paper upon this subject by Mr. T. C. Horsfall, who is well known as an expert upon education. The paper was originally written for a periodical called *Manual Training*, but the committee of the Penal Reform League thought it good to reprint it because, to use its own words, "there are here indicated some of the measures by which the education of our youth may be made more preventive of crime, that is more effective in fitting them to live worthy lives." Mr. Horsfall starts by laying down the precept that a child should feel love and respect for its teachers, and with this we quite agree. But there is reason for the warning which the Penal Reform League gives that this affection may be abused. Mr. Horsfall maintains that for a teacher to bring out this affection he must have the opportunity of giving his pupils both what they need and what they desire, and the two things for which he pleads are organised games and handicraft. Organised games, such as cricket and football, are of the greatest value, for they teach what is perhaps the crying need of the day—namely, discipline. Manual training, too, excites children's interests in a way which book learning alone never will, for by its means they can apply what they are taught. Even Mr. Squeers, with all his deficiencies as a teacher, had in a way grasped this fact, as our readers will see if they recall to mind the manner in which he connected the spelling of "window" and the cleaning of the same. Mr. Horsfall gives a short account of the results of manual instruction as given in Germany and in our own country at Sompting, and pleads for a general adoption of the new system. He quotes the late Godfrey Leland as saying that he had never known a man who could use his hands skilfully to go quite to the dogs. Opinions may differ as to when "quite to the dogs" begins, but certainly many skilled handicraftsmen have led anything but reputable lives. To mention only two, Benvenuto Cellini could certainly use his hands, but his way of life was far from admirable; while to come down to modern times, Charles Peace was a skilled violinist, could make a violin, was a first-class burglar, and ended his career on the scaffold. For all that, we quite agree that manual training is an asset of great value in the education of youth.

THE SPECTRUM OF THE ALKALOID AS AN AID TO ITS DETECTION AND ESTIMATION

IN a recent lecture delivered before the Royal Institution Dr. J. J. Dobbie, F.R.S., the principal chemist of the Government laboratories, drew attention to the value of the study of the absorption spectrum of the alkaloids which had not only thrown light upon the structure of these bodies, but had led also to a method for their detection and estimation. The absorption occurs in the ultra-violet end of the spectrum, and means are devised by which a favourable production of this can be obtained. To begin with, the source of light used is obtained by sparking one of the metals such as iron or a combination of metals which give rays rich in ultra-violet. Next, the prisms and lenses of the apparatus are made of quartz, which, unlike glass, is readily permeable by the ultra-violet rays. The lines of selective absorption of the alkaloid dissolved in a diactinic solvent are photographed. It is found that the alkaloids generally have very characteristic spectra by means of which they can be distinguished with certainty from one another, except when they are homologous or otherwise very closely related structurally. The method may therefore be used with considerable advantage in examinations for the presence of alkaloids to confirm the results obtained by the usual chemical tests. Although the chemical tests are as a rule sufficiently distinct, the gravity of the circumstances in which they have frequently to be applied renders it desirable to obtain all the confirmatory evidence possible. Dr. Dobbie says that the minutest quantities of alkaloids can be detected by this means, the method rivalling the colour reactions for the alkaloids in regard to delicacy. Thus, with a quantity of strychnine not exceeding 1/500 of a grain, a clearly defined spectrum of the alkaloid can be obtained. Similarly, the lines are perfectly distinct and peculiar when 1/200 of a grain of morphine and 1/100 of a grain of nicotine respectively are examined in the diactinic cell. As is pointed out, the use of the spectroscope in the detection and estimation of alkaloids in cases of poisoning possesses certain advantages of the highest importance. One is that the material is not the maximum temperature was sometimes as high as 60° early in the month, it was as low as 37° just before the middle, but by the 25th it was up to 70°, and on the last four days rose to 81° or 82°. Sharp frost was experienced about the middle of the month, the lowest temperature recorded being 25°. Considered generally, however, the weather was warmer than in any part of this country, as well as drier. Only six or seven days were rainy, and the aggregate fall no more than 0·7 in. Similar changes of temperature were general in the east and north-east of France. At Paris, where the early part of the month was mild and the middle rather cold, the end was only a little less hot than at Berlin, and as a whole the French capital was warmer, having a mean maximum temperature of 59° and a mean minimum of 42°, both values being a degree higher than those at Berlin. Paris was, however, more rainy than Berlin, more or less rain was experienced on nearly half the days, and the total fall amounted to 2·23 in. As in this country, the month was relatively dull, the total sunshine being no more than 151 hours. On the Riviera there was a marked increase of warmth. At Nice, where the mean maximum temperature was 60°, and the mean minimum 45°, the shaded thermometer rose to 70° or above on three afternoons, but the weather was never so hot as during the latter days of the month at Paris. Rain occurred on nine days, and yielded a total of 3·7 in., but generally the weather was very fine. Much more rain fell at Biarritz, and the weather generally, although nearly as warm as at Nice, was far less fine. Several days were rainy throughout, and the aggregate for the month was as much as eight inches, more than three times the total at Kew. In Italy also the month was more or less wet, especially over the northern half. During the first fortnight, and occasionally later, rain fell in large quantities, that at Rome almost equalling the heavy total at Biarritz. The first fortnight was, too, very cool for the time of year, the temperature barely exceeding that in London. Subsequently, however, there was a very appreciable increase of warmth. At Madeira the temperature was little affected by the northward march of the sun, and the mean maximum was about the same (64°) as during the preceding month, while the mean minimum (49°) showed but slight variation. As a rule the weather was dry and bright, but during the first fortnight rain occurred on eight days.

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INTESTINAL PERFORATION IN PARATYPHOID FEVER.

THE bacteriological investigation of cases of typhoid fever led, as is well known, to the discovery that in a certain number the causal organism is not the typhoid bacillus but a microbe of the same group which has been termed the "paratyphoid bacillus." The illness produced by this bacillus—paratyphoid fever—is clinically indistinguishable from typhoid fever, and usually resembles a benign form of the latter. Out of 162 recorded cases only 6 have been fatal. Intestinal lesions like those of typhoid fever are rare, and it has been asserted that perforation never occurs. In the *Progrès Médical* of March 1st M. Grenier, an army surgeon, has reported a case which shows that this generalisation is premature. A soldier in the foreign legion, aged 28 years, had good health but was slightly addicted to alcohol. He had never had typhoid fever. On July 25th, 1912, he was taken ill with foul tongue, a little diarrhœa, headache, and slight fever. On August 5th he was examined by M. Grenier. Forty hours previously he was seized with acute pain in the right iliac fossa. Examination showed a dry tongue, rose spots on the abdomen, abdominal rigidity with pain which was acute on pressure, especially on the right side. There was bilious vomiting, the face was pinched, the pulse was 120, and the temperature 103·3° F. The diagnosis of peritonitis consecutive to typhoid perforation was obvious. In spite of the interval which had elapsed laparotomy was performed. Sero-purulent fluid escaped from the general peritoneal cavity and pus from the pelvic cavity. On a coil of ileum near the cæcum a lenticular perforation was found over an inflamed Peyer's patch. There were no adhesions. The perforation was sutured, and three large drainage-tubes were placed in the pelvis. The abdominal wound was closed, and saline solution was administered hypodermically and by the rectum according to Murphy's method. Death took place on the following day. At the necropsy the intestinal coils were found adherent to one another. The lower part of the ileum was swollen and showed numerous inflamed and hæmorrhagic Peyer's patches. The mesenteric glands were enlarged. The spleen was large and diffluent. A blood culture made during life showed an extremely motile organism with all the characters of paratyphoid bacillus of the B type.

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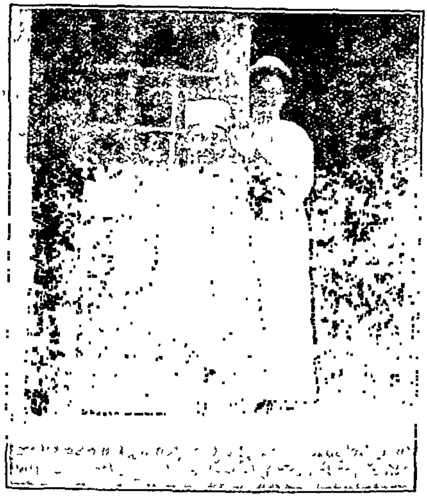

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THE ETIOLOGY AND TREATMENT OF RHEUMATOID ARTHRITIS.

THE causation of rheumatoid arthritis has been the subject of much speculation and research. Its frequent association with chronic infections and its analogies with other acute and chronic processes in joints of proved infective origin have given considerable support to the view that at any rate some of the conditions comprised under the somewhat comprehensive term of rheumatoid arthritis are also due to chronic microbic infections. We publish in this week's issue of THE LANCET two interesting and suggestive contributions upon this subject. The first of these, by Dr. H. Warren Crowe, of Yelverton, is more particularly concerned with the etiology of the disease. The second by Dr. A. Bertram Soltau, of Plymouth, deals especially with the results of treatment by certain vaccines, and the general results obtained by the two observers are substantially in agreement. Dr. Crowe states that it has been his practice for some years to examine the urine bacteriologically in cases of arthritis, neuritis, and muscular rheumatism, and he has found that when a local bacterial nidus exists the same organism can usually be recovered from the urine. He has found a group of organisms in the urine which he has distinguished as staphyloidcocci, and he has subdivided these into six distinctly different organisms, to one of which he has applied the name of staphyloidcoccus A. He has found the organism to occur with remarkable frequency in the urine of patients suffering from rheumatoid arthritis. He believes it to be the commonest so called staphylococcus found in urine, and states that it closely resembles that group of germs to which the generic name of micrococcus epidermidis albus is applied. Dr. Soltau has used a vaccine made from this staphyloidcoccus A of Dr. Crowe in a considerable number of cases, and describes his results which he regards as encouraging. He has found that some of his cases showed the presence of staphyloidcoccus A alone, while in others the infection was mixed, such organisms as streptococci and bacillus coli communis being present with the staphyloidcoccus A. In the latter group of cases he has generally given a vaccine from the secondary organisms first, and later given the staphyloidcoccus A vaccine. In regard to the dosage of the latter, it is necessary to start with very small doses, such as half a million, since marked reactions occur even with these small doses. Both observers are careful to avoid making exaggerated claims as to the significance of their observations. They do not maintain that the sole pathogenic cause of rheumatoid arthritis is the organism which they have worked with, but point out that its frequent presence in the urine and the good results of its careful use as a vaccine are suggestive, and should encourage further interest in the subject. This disease in some of its forms is so crippling and is productive of so much pain and disability, that we must welcome any new work which offers a hope of real curative rather than palliative treatment, and we shall await further experience on this method of treatment with interest.

THE DANGERS OF THE OPERATION FOR ADENOIDS.

THERE is an impression among the laity, and even in the profession that the operation for adenoids is devoid of danger. This is no doubt due to the few cases of complications following this extremely common operation which have been described. For this there are three reasons. First, few surgeons enjoy publishing their accidents. Second, the patient is often not under the observation of the surgeon after the operation. Third, the operation is frequently performed by the general practitioner, who is too busy to publish his cases. In the *Johns Hopkins Hospital Bulletin* for April Dr. W. E. Grove has reported two cases of complications following the operation for adenoids and reviewed the literature of the subject, which is almost entirely German. The most frequent and dangerous of these complications may be divided into two groups—hæmorrhage and infections. Post operative hæmorrhage may be very severe. In 1907 Barrell and Orr reported seven fatal cases. Post-operative inflammation may be expected when it is remembered that many microbes are found on the surface of adenoids. Indeed, the fever which usually follows the operation is an indication of an infection which the organism usually overcomes. Six cases of septicæmia following the operation have been recorded. Coley observed one case of endocarditis and found two other cases in the literature. Practically all the acute infectious diseases of childhood have been observed as post operative sequelæ. The cases of scarlet fever and diphtheria may be explained in two ways. Either the operation was performed during the incubation period or the patients were carriers of the disease, the microbe being present in the throat. Acute local post operative infections are frequent. Trofinow saw five cases of angina follicularis after 508 operations. Gerber observed a peritonsillar abscess a short time after removal of adenoids in an adult. Grönbeck described four cases of extensive post operative adenitis. Nine cases of torticollis following the operation have been described. Erysipelas has also been observed. Pulmonary complications, such as pneumonia and abscess of the lung, have been described; they are evidently due to aspiration of blood or lymphoid tissue during the operation. Fatal meningitis has also been reported. Infection of the ear through the Eustachian tube are among the most frequent, if, indeed, they are not the most frequent, complications of the operation. Infections of the nasal sinuses appear to be much less frequent and have received little attention in literature. Henke described the case of a girl, aged 13 years, in whom severe infection of the frontal sinus with œdema of the eyelids and neighbouring parts developed in such circumstances is to ascertain whether there has been foul play, and it is not a measure to be undertaken lightly Where a medical practitioner has attended the deceased it *implies that if there has been poisoning or any other* wrongful act or omission conducing to the death he has overlooked it, and it further suggests that someone may have caused the death by a felonious act So far as the medical attendant is concerned it is an act of discourtesy to him to ignore him in granting the exhumation, and, more than this, an exhumation such as that referred to inflicts pain upon relatives and causes the circulation of rumours of a very painful character Reference need hardly be made to the names of the two medical attendants of the late Colonel Meeking in order to point out that in his case the possibility of error was an extremely remote one In general, however, it may be said that it should be possible for the Home Office, by inquiry addressed to the medical attendant by a person qualified to make it, to satisfy itself as to the possibility or likelihood of a mistake having been made, or if there is any other reason for regarding the medical certificate of the cause of death with suspicion If after such an inquiry there remained an element of doubt or any probability or even possibility that the suspicions of those asking for post mortem examination of the remains had any substantial basis, no question of the feelings of the medical attendant or of surviving relatives should, of course, intervene to prevent full investigation The interests of public justice on such occasions must necessarily override other considerations And Dr Cautley, in the protest to which we have referred, does not demand otherwise

THE ETIOLOGY AND TREATMENT OF RHEUMATOID ARTHRITIS

THE causation of rheumatoid arthritis has been the subject of much speculation and research Its frequent association with chronic *infections* and its analogies with other acute and chronic processes in joints of proved infective origin have given considerable support to the view that at any rate some of the conditions comprised under the somewhat comprehensive term of rheumatoid arthritis are also due to chronic microbic *infections* We publish in this week's issue of THE LANCET two interesting and suggestive contributions upon this subject The first of these, by Dr H Warren Crowe, of Yelverton, is more particularly concerned with the etiology of the disease The second by Dr A Bertram Soltau, of Plymouth, deals especially with the results of treatment by certain vaccines and the general results obtained by the two observers are substantially in agreement Dr Crowe states that it has been his practice for some years to examine the urine bacteriologically in cases of arthritis, neuritis, and muscular rheumatism, and he has found that when a local bacterial nidus exists the same organism can usually be recovered from the urine He has found a group of organisms in the urine which he has distinguished as staphyloidcocci, and he has subdivided these into six distinctly different organisms, to one of which he has applied the name of staphyloidcoccus A He has found the organism to occur with remarkable frequency in the urine of patients suffering from rheumatoid arthritis He believes *it to be the commonest* so called *staphylococcus* found in urine, and states that it closely resembles that group of germs to which the generic name of micrococcus epidermidis albus is applied Dr Soltau has used a vaccine made from this staphyloidcoccus A of Dr Crowe in a considerable number of cases, and describes his results which he regards as encouraging He has found that some of his cases showed the presence of staphyloidcoccus A alone, while in others the infection was mixed, such organism, as streptococci and bacillus coli communis being present with the staphyloidcoccus A In the latter group of cases he has generally given a vaccine from the secondary organisms first, and later given the staphyloidcoccus A vaccine In regard to the dosage of the latter, it is necessary to start with very small doses, such as half a million, since marked reactions occur even with these small doses Both observers are careful to avoid making exaggerated claims as to the significance of their observations They do not maintain that the sole pathogenic cause of rheumatoid arthritis is the organism which they have worked with, but point out that its frequent presence in the urine and the good results of its careful use as a vaccine are suggestive, and should encourage further interest in the subject This disease in some of its forms is so crippling and is productive of so much pain and disability, that we must welcome any new work which offers a hope of real curative rather than palliative treatment, and we shall await further experience on this method of treatment with interest

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Apart from the actual statements of coroners, evidence of the diversity of principle and practice is furnished by the statistics relating to inquests. For instance, some coroners regard a case of Bright's disease or cirrhosis of the liver as "natural death," others enter it under "excessive drinking." The result is that one town will show an apparent mortality from the latter cause enormously greater than that in another town of the same size and character. Some coroners accept any evidence as sufficient to establish insanity in cases of suicide, others require evidence of its existence in the ordinary meaning of the word. In Manchester and Newcastle, for example, out of 84 suicides in 1910, there were 41 verdicts of *felo-de-se*, while in London out of 540 suicides there were only seven such verdicts. In one district in London post-mortem examinations were made in 96 per cent. of the inquests held, in another in only 29 per cent. Perhaps the most striking feature is the difference in the proportion of inquests held in town and country. The Registrar-General's returns show that out of 132,505 deaths in 24 large towns, inquests were held in 9·9 per cent., the percentage of violent deaths being 4·1. In 22 rural and scattered areas, out of 77,890 deaths the percentage of inquests was 5·5, the percentage of violent deaths only dropping to 3·9. Further analysis shows that the difference lies almost entirely in the number of natural deaths investigated, the percentage of such verdicts in inquests held being about 50 in towns and 25 in the country. In other words, the coroners in country districts tend to hold inquests only when there is some suspicion of violence. In towns they investigate a larger number of deaths in which there is no suspicion but the pathological cause is doubtful. One might have expected that inquests would have been fewer in towns, since the opportunities of making complete preliminary inquiries are much greater than in the country; but the reverse is the case.

It appears to me that there is only one adequate explanation of this difference—namely, that the factor of distance influences the coroner. In the country most of the coroners are part-time officers, [illegible] medical man in busy practice. The [illegible] not large, and to tra[illegible] trouble of summoning a jury and arranging for the attendance of witnesses may mean a serious interruption of work. Under such circumstances coroners are apt not to hold inquests except in cases of urgent necessity. If this explanation is correct I submit that it indicates a serious state of affairs. It means either that a large number of unnecessary inquests are being held in towns or that inquests are not held in the country where they should be, or both. In the first alternative persons are being needlessly put through a painful ordeal, jurymen and witnesses are called upon to waste their time, and the local authority is being caused unnecessary expense. If the second be the case, then many deaths in the country are not being properly investigated. In either case the position is extremely unsatisfactory and indicates the necessity of laying down some general principles for coroners to follow. As bearing upon the holding of unnecessary inquests in towns, let me quote the following from the evidence of Mr. Ollis, chief officer of the Public Control Department of the London County Council, before the Departmental Committee:—

> An officer of the Council was instructed to watch proceedings at inquests as a member of the public. He attended 23 different courts, [illegible] grouped, and the time spent upon an inquest did not indicate that any public good was being served by the inquest being held.

Sources of Information open to Coroners.

For the proper investigation of unnatural deaths it is obvious that the coroners should obtain early and complete information of all such cases, but it is more than doubtful whether the present system or systems provide this.

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The registrar of deaths exercises the function of reading certificates of death and forwarding such of them as he considers unsatisfactory to the coroner. I submit that the duty of revising medical certificates cannot be satisfactorily discharged by anyone other than a medical man, and the practice was condemned by the Committee on Death Certification as long ago as 1893. Evidence was given before the Coroners Committee that some of the registrars are ignorant of their duties and do not report cases they ought to do.

Interesting confirmation of this was given by Dr. H. T. Herring, medical referee to the London Cremation Society. When a body is to be cremated two medical certificates are required, and these are scrutinised by the medical referee. Between the years 1902 and 1909 11 deaths were referred by Dr. Herring to coroners, although the certificates were apparently quite in order and would have been sufficient for burial. The coroners considered it necessary to hold inquests in seven of these cases, and in some of them death was found not to have been due to natural causes. Dr. Herring estimated that there are in London alone at least 210 persons buried every year on the registrar's certificate [illegible]n held. [illegible] from the fact that the [illegible] th a medical certificate [illegible] burial upon receipt of [illegible] may be derived from any unqualified bonesetter or herbalist or even from persons who make no pretence to medical knowledge whatever. This is a very grave responsibility to place on a person without knowledge of medicine. Let me call your attention to the facts that, apart from 814 deaths the causes of which were unknown or ill-defined, there were, according to the Registrar-General's returns in 1910, in England and Wales, 199 deaths from accident or negligence which were certified by medical practitioners without any inquest being held, and 690 deaths which were neither certified by doctors nor reported to coroners. These facts show that even the existing law is not carried out, and are alone sufficient to condemn the system.

The coroner's officer.—This functionary, though unknown to statute, exercises duties of a most inquisitorial character, and it is largely upon his inquiries that a coroner decides whether or not to hold an inquest. Where he is a police constable or sergeant he is probably efficient, but many are private persons and may be quite incompetent. Coroners' officers are usually paid by fee, so that it is to their interest to have as many inquests held as possible. An additional objection is that their inquiries in cases of crime may, as Inspector Shorthouse pointed out, frustrate the police investigations.

Medical practitioners.—In consequence of the pain and publicity attaching to inquests the public are naturally very reluctant to face these inquiries, and in doubtful cases strong pressure is always brought to bear upon practitioners to avoid an inquest if possible. The result is that many cases in which the pathological cause of death is unknown are not reported if they appear to be free from suspicion. But it is impossible to say that any death is free from suspicion as long as the pathological cause is undetermined. With the simplified and semi-private procedure I shall suggest presently, more of these cases would be reported and crime might be detected.

Let me give some actual instances. The death of Mary Chapman, the first victim of the murderer Chapman or Klowsowski, was certified as due to phthisis, but when the body was exhumed no trace of disease was found in the lungs. If an investigation had been made in this case the lives of the two later victims would have been saved. About certain defects in the material or construction, to the police possibly manslaughter from the neglect of another to provide certain safeguards. Until the fundamental *purpose* of the inquiry is determined it is waste of time to consider what alterations should be made in the coroner's law; for it is clear that the qualifications in the coroner and the procedure adapted to one purpose are not those suited to another. Speaking broadly, we have to choose between either a legal or a scientific inquiry.

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Mr Pepper in his evidence before the Departmental Committee stated that he had seen coroners go wrong many times over the medical evidence, and scattered through the volumes of the report are numerous instances where coroners have failed to appreciate the medical points One coroner in a case of starvation attached great importance to the viewing of the body by the jury *He said* "The evidence given at the inquest to uneducated minds without having seen the body would have conveyed very little having seen the body of the old woman with the bones almost through her skin, the jury immediately formed their own opinion outside the oral evidence and found a verdict of manslaughter" He was asked if he thought proceedings would not have been taken if the jury had not seen the body, and replied "I am perfectly sure they would not as I heard it said, 'What an absurd thing to bring in a verdict of manslaughter' I have not the slightest doubt that that woman was convicted purely on the viewing of the body" It is clear that such a case ought to turn solely on the medical evidence Starvation can only be proved by excluding all possible pathological causes after an exhaustive post mortem examination, and an appearance of emaciation however extreme, is not of the least value as evidence of criminal neglect

Another coroner *stated that if a doctor reported to him* that he could find no trace of injury or disease in a body and did not know the cause of death, he was satisfied that it was due to natural causes Yet another indicated that it was his practice not to order post mortem examinations in cases of bodies found in the river He simply advised the jury to return a verdict of "found drowned

Procedure at Inquests

This is often lax and irregular I know of one coroner in a large town who always calls the same jury, and if he is not sure that they are going to return the verdict he wants he *retires with them in order to assist them to arrive at it* Another coroner was shown in evidence given before the committee to have been in the habit of holding private inquiries on oath without a jury

The "view" is another relic of antiquity It was originally necessary to establish the fact that there was actually a body *whose death was to be investigated Now it is* useless and disagreeable It is urged that it enables the coroner and jury better able to follow the medical evidence But this can only apply in the case of wounds, and to be of any value the jury should see, not only the surface of the body, but also the injuries produced in the internal organs Its uselessness is *shown by the fact that it is not required by the magistrate or* grand or petty juries

But the greatest objection to the present system in my opinion, is the unnecessary pain it inflicts upon witnesses It is always a trying ordeal to appear at an inquest A person recently bereft of a loved one, probably under tragic circumstances, is *required to face a crowded and curious court in a* state of great distress and reveal all sorts of private and domestic details The great bulk of the cases are non-criminal, and it is difficult to see the necessity for publishing these details broadcast in the newspapers The court is open to all and sundry, and sensational cases become almost shows It is this feature of the inquest, above all, which is responsible for the non reporting of doubtful cases

The practice of requiring a body to be formally identified by a near relative is distressing and often totally unnecessary *It involves a visit to the mortuary*, where other bodies in various stages of putrescence may be lying Where there is no doubt as to the identity there seems no reason why this purely formal evidence should not be taken privately before the inquest

Proposals for Reform

We have seen that the fundamental objection to the present system is the absence of any definite result from the verdict commensurate with the pain and expense involved The inquest verdict has no legal weight and does not settle legal questions, it has frequently little scientific value and does not provide accurate medical statistics Reform should take the line of giving it weight for one or other of these purposes We cannot have both, since the modes of inquiry demanded are radically different If it be decided that the office is essentially judicial in character, then the coroner should always be a lawyer of high standing, legal procedure should be observed in his court, and he should be bound to observe the law of evidence His court should rank as one of first instance, and he alone should investigate charges of murder and manslaughter and commit for trial, no magisterial proceedings being taken in his cases In the matter of accidents he should possess the powers of a county court judge and his decision in claims for compensation should be binding until upset by a court of appeal

The other alternative is to regard the inquiry as held primarily for medical and scientific purposes, and only incidentally for the detection of crime in so far as medical knowledge can be utilised for that purpose The coroner *under this system should be a highly qualified medical man*, and his function would be to determine the pathological cause of death, leaving all legal questions to be settled by other tribunals In a case of murder or manslaughter for which a person had been arrested he would either leave the investigation entirely in the hands of the magistrate or he would take *simply medical evidence and such other evidence* as bore upon the pathological cause of death and would then send a report to the magistrate who would finish the case In a case of accident he would settle once and for all whether the condition was due to disease or injury, but he would leave all questions of responsibility, claims for compensation, and so on to the properly constituted legal tribunals The jury would not be necessary, and only representatives of the deceased, of persons concerned, and of the police should have a right to be present No account would be published in the newspapers With this simplified and semi private procedure medical practitioners would hesitate far less to report doubtful cases

It will be urged against a private inquiry that it will lead to the "hushing up of questionable cases To this I reply that it is only the hushing up of crime which matters, and with this question the medical coroner would not be dealing The only hushing up possible would be in regard to details of a pathological character, and I see no reason why it should be published abroad that a man died from syphilis or alcoholism This objection is not found in Scotland, nor, as far as I know, in France and Germany, where a private inquiry is held Finally, the present system affords no safeguard against this abuse, as was conclusively shown in evidence before the Departmental Committee

Certification of Death

Of the two courses I have outlined my own view is that [illegible] with it should [illegible] tifying deaths [illegible] of investigating generally the causes of death from the scientific point of view hinders the progress of medicine, and renders social legislation based upon medical statistics difficult and uncertain It is just the deaths in which the pathology is obscure that would yield the most valuable information, and every day cases which would furnish knowledge of great [illegible] lost Further, the system [illegible] to the relatives naturally [illegible] terminology hiding the [illegible] s where it reflects upon the character of the deceased We know that in such matters consisting of a lay coroner and a jury of working men is competent to determine the highly scientific questions involved, and Sir Frederic Hewitt in his evidence before the Coroner's Committee stated that the true facts are often not brought out. I have now records of some hundreds of such inquests, and in all of them the jury found that the anæsthetic had been properly administered. This seems to indicate either that the risk of negligent administration is so slight that the inquiry is superfluous or, more probably, that the tribunal is incapable of detecting faulty procedure. It is amusing to note the differences of view among coroners as to the effect of these inquests upon the public. The coroner for Manchester said: "The one thing I do deprecate is not the inquest, but publicity. In my practice I endeavour as far as possible to keep these matters quiet, to keep them from the public for the sake of other patients." The coroner for Birmingham stated: "One of the objects I think of holding an inquest is to maintain public confidence in the medical profession and medical institutions, and I think it does maintain that confidence for people to feel when a death occurs under such circumstances that it is inquired into and you can always put it to a jury."

Mr. Pepper in his evidence before the Departmental Committee stated that he had seen coroners go wrong many times over the medical evidence, and scattered through the volumes of the report are numerous instances where coroners have failed to appreciate the medical points. One coroner in a case of starvation attached great importance to the viewing of the body by the jury. He said: "The evidence given at the inquest to uneducated minds without having seen the body would have conveyed very little . . . having seen the body of the old woman with the bones almost through her skin, the jury immediately formed their own opinion outside the oral evidence and found a verdict of manslaughter." He was asked if he thought proceedings would not have been taken if the jury had not seen the body, and replied: "I am perfectly sure they would not, as I heard it said, 'What an absurd thing to bring in a verdict of manslaughter.' I have not the slightest doubt that that woman was convicted purely on the viewing of the body." It is clear that such a case ought to turn solely on the medical evidence. Starvation can only be proved by excluding all possible pathological causes after an exhaustive post-mortem examination, and an appearance of emaciation however extreme, is not of the least value as evidence of criminal neglect.

Another coroner stated that if a doctor reported to him that he could find no trace of injury or disease in a body and did not know the cause of death, he was satisfied that it was due to natural causes. Yet another indicated that it was his practice not to order post-mortem examinations in cases of bodies found in the river. He simply advised the jury to return a verdict of "found drowned."

Procedure at Inquests.

This is often lax and irregular. I know of one coroner in a large town who always calls the same jury, and if he is not sure that they are going to return the verdict he wants he retires with them in order to assist them to arrive at it. Another coroner was shown in evidence given before the committee to have been in the habit of holding private inquiries on oath without a jury.

The "view" is another relic of antiquity. It was originally necessary to establish the fact that there was actually a body whose death was to be investigated. Now it is useless and disagreeable. It is urged that it enables the coroner and jury better able to follow the medical evidence. But this can only apply in the case of wounds, and to be of any value the jury should see, not only the surface of the body, but also the injuries produced in the internal organs. Its uselessness is shown by the fact that it is not required by the magistrate or grand or petty juries.

But the greatest objection to the present system in my opinion, is the unnecessary pain it inflicts upon witnesses. It is always a trying ordeal to appear at an inquest. A person recently bereft of a loved one, probably under tragic circumstances, is required to face a crowded and curious court in a state of great distress and reveal all sorts of private and domestic details. The great bulk of the cases are non-criminal, and it is difficult to see the necessity for publishing these details broadcast in the newspapers. The court is open to all and sundry, and sensational cases become almost shows. It is this feature of the inquest, above all, which is responsible for the non-reporting of doubtful cases.

The practice of requiring a body to be formally identified by a near relative is distressing and often totally unnecessary. It involves a visit to the mortuary, where other bodies in various stages of putrescence may be lying. Where there is no doubt as to the identity there seems no reason why this purely formal evidence should not be taken privately before the inquest.

Proposals for Reform.

We have seen that the fundamental objection to the present system is the absence of any definite result from the verdict commensurate with the pain and expense involved. The inquest verdict has no legal weight and does not settle legal questions; it has frequently little scientific value and does not provide accurate medical statistics. Reform should take the line of giving it weight for one or other of these purposes. We cannot have both, since the modes of inquiry demanded are radically different. If it be decided that the office is essentially judicial in character, then the coroner should always be a lawyer of high standing, legal procedure should be observed in his court, and he should be bound to observe the law of evidence. His court should rank as one of first instance, and he alone should investigate charges of murder and manslaughter and commit for trial, no magisterial proceedings being taken in his cases. In the matter of accidents he should possess the powers of a county court judge and his decision in claims for compensation should be binding until upset by a court of appeal.

The other alternative is to regard the inquiry as held primarily for medical and scientific purposes, and only incidentally for the detection of crime in so far as medical knowledge can be utilised for that purpose. The coroner under this system should be a highly qualified medical man, and his function would be to determine the pathological cause of death, leaving all legal questions to be settled by other tribunals. In a case of murder or manslaughter for which a person had been arrested he would either leave the investigation entirely in the hands of the magistrate or he would take simply medical evidence and such other evidence as bore upon the pathological cause of death and would then send a report to the magistrate who would finish the case. In a case of accident he would settle once and for all whether the condition was due to disease or injury, but he would leave all questions of responsibility, claims for compensation, and so on, to the properly constituted legal tribunals. The jury would not be necessary, and only representatives of the deceased, of persons concerned, and of the police should have a right to be present. No account would be published in the newspapers. With this simplified and semi-private procedure medical practitioners would hesitate far less to report doubtful cases.

It will be urged against a private inquiry that it will lead to the "hushing up" of questionable cases. To this I reply that it is only the hushing up of crime which matters, and with this question the medical coroner would not be dealing. The only hushing up possible would be in regard to details of a pathological character, and I see no reason why it should be published abroad that a man died from syphilis or alcoholism. This objection is not found in Scotland, nor, as far as I know, in France and Germany, where a private inquiry is held. Finally, the present system affords no safeguard against this abuse, as was conclusively shown in evidence before the Departmental Committee.

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To the Editor of The Lancet.

Sir,—I do not propose to consider the question of the propriety of extending the parliamentary franchise to women, my object is to arrive at a conclusion on the mental state of those women who commit acts of violence in opposition to the law of the country

Many people who see that women commit arson, manufacture and use bombs, break windows, and starve themselves for the sake of the idea that by so doing they will get what they want, come to the conclusion that these persons must be insane because lunatics may act in the same way The inference is illogical, because the acts of the insane, similar though they may be in kind to those of the militant suffragettes, spring from a different class of motive (as a rule) and though the working out into action is the same, whether the idea be a sane or an insane one, it is the nature of the motive which makes the difference There are amongst the large body of suffragettes many who happen to be insane or weak minded—I have seen them —but the same statement applies to all other sections of people, it is an accident and is not a necessary cause of the conduct in question The actions of the insane are the impulsive or the deliberate working out of their false ideas, and the result generally shows the invalidity of the motive, but the militant suffragette has in many particulars justified her actions She has gone on hunger strike and has been successful in procuring the abandonment of artificial feeding and in getting the term of her imprisonment shortened, and by her polemic measures she has made many think that the best way of pacifying her is by treating her as a naughty child and giving her all she wants There is no evidence of insanity in this—on the contrary, it has all the characteristics of very sane procedure Nor does it help us to say that if not actually insane they are, at any rate the victims of hysteria I have endeavoured elsewhere (Ex Cathedrâ Essays) to show that in hysteria "there is an organic change at the root of the condition, defective or perverted action of the higher nervous and mental states," and though some may be in this condition by accident it is by no means a necessary explanation of the acts of these women who are neither insane nor hysterical These actions, however they may be condemned as inimical to the sense and feeling of the general community, are not, *quâ* actions, wrong, they are but the correct interpretation of certain central conditions, and it is these latter to which attention must be turned

Few people know the importance of feeling in volitional acts, but it is, as a fact, one of the most important essentials, and both feeling and emotion are strongly developed elements of the female mind So is mono ideism or the concentration of consciousness on some subject carrying with it a very strong emotional tone, such as, in its extreme development, is seen in the state called ecstasy, which though a rare, is not an insane, condition In an elaborate argument Wundt shows that *personal character* is the ultimate cause of volition and that the connexion between motive and volition is uncertain because of the existence of this personal factor, the manner of whose coöperation with external factors is unknown The real nature of personality is a riddle What causes women to commit these voluntary and impulsive (also to some extent voluntary) actions is their personal factor their character; and of the proper nature of this character men are comparatively ignorant, just as women have shown themselves ignorant of the character of men Up to recent times our knowledge of the real character of women was very imperfect—it is still far from complete, and it never will be absolutely full, but recent events have made it clear that the personal factor contains elements of an intensity and range hitherto unappreciated, and we have been astonished at what has been seen, though still allowing that further developments of action will probably widen our knowledge And just as men have under estimated the emotional strength and intensity of concentrated ideism in women, so have women been—and still are—mistaken in their estimate of the character of men Until it is evident to them that their efforts to obtain what they want by violent means are ineffectual they will pursue their present tactics When they find that men are not to be beaten into compliance they will stop their futile practices, not before Meanwhile, as long as the present attitude of the male element lasts the war of the sexes must continue Individual men are found to justify the action of the militants, but they are neither strong nor numerous enough to influence the personality of the majority Whether eventually the oscillations of thought of the community will change or turn is a question of the future The militants have just as much right to think the male elements insane for not granting their (to them) reasonable views, as the men have to make the charge of insanity against women for acting in a way which denotes obstinate ignorance and nothing more

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I am Sir, yours faithfully,

Weymouth street, W, May 7th 1913 T Claye Shaw

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To the Editor of The Lancet

Sir —In reference to the Annotation on this subject on page 1258 of your issue of May 3rd it may be of interest to recall that during the campaign in the Eastern Soudan in 1885 ether was used for all operations in the Suakin Field Force I was appointed anæsthetist to that force, and I think I only used chloroform in one case, and that only to induce anæsthesia, which was then kept up with ether The air temperature was over 100° F, and sometimes over 120° F in the shade I had no untoward results A fairly large

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From the standpoint of this definition there is evidently a very wide field of investigation open to psychology to day And in considering some of the problems with which we in the medical profession are confronted there seems special need to maintain a balanced judgment as free from bias as possible A hasty process of deduction can be of little use in this respect, and the slower and surer method of induction would appear to be more hopeful of fruitful results To quote Bacon —

> Man being the servant and interpreter of Nature, can do and understand so much and so much only as he has observed in fact or in thought of the course of nature (in naturæ ordine re vel mente observaverit) beyond this he neither knows anything nor can do anything —(Novum Organum: Aphorism 1)
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And to carry the principle a step further—into the realm of psychotherapy—I cannot help thinking that its application will prove both illuminative and fruitful

There is ample material at hand in practical results which have already been achieved in England, America and on the Continent And these results bear intimately upon general practice as well as upon some of its special departments

> Even if the breath of hope which blows on us from that New Continent were fainter than it is and harder to perceive, yet the trial (if we would not bear a spirit altogether abject) must by all means be made there is hope enough and to spare not only to make a bold man try but also to make a sober minded and wise man believe —(Aphorism 114)

I am, Sir, yours faithfully,
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Esmond road, Bedford park, W , May 11th 1913

NECROSIS IN ECLAMPSIA

To the Editor of THE LANCET

SIR,—I have read with much interest the paper by Professor R Jardine and Dr A M Kennedy[1] on symmetrical necrosis of the cortex of the kidney in eclampsia, and more particularly the two tentative conclusions of the latter—namely, that he is "inclined to the view that the cause of the necrosis in the kidneys is the same as that which causes the necrosis in the liver" and that "the thrombosis in the smaller cortical renal arteries is secondary to the necrosis of the cells " Dr Kennedy then asks what it is that initiates the necrosis and submits that it is some factor in the eclamptic toxin I am very glad to agree with him, but hope that it may be possible to go a little further and to define this factor more closely

My own observations on necrosis in eclampsia have been confined to the liver, where alone have I seen it In previous communications[2] I have strongly urged that this necrosis is largely if not entirely due to hæmagglutinative thrombi—that is to say, to an actual occlusion of the vessels with massed red cells without the intervention of fibrin That these occur in the livers of eclamptic cases has been demonstrated by Flexner, Welch, and myself Further, Pearce has shown that an experimentally induced hæmagglutination is capable of causing a focal necrosis of liver cells and has very clearly proved the interrelation of this hæmagglutinative with a hæmolytic element in the production or prevention of necrosis The full references will be found in my papers quoted

It appears that this hæmagglutination occurs most readily where the circulation is very slow, and although such thrombi have not to my knowledge been described experimentally in the kidney, still the site of the focal necrosis as given by all writers on this form of renal destruction is much in favour of such an origin It would be extremely interesting and important to learn from Dr Kennedy whether any appearances of this nature are to be seen in the third and earliest of the three cases now reported In the microscopical report of one of the two livers examined Dr Kennedy comments on the very great dilatation of the capillaries that was present This may be similar to the extreme congestion noted by Pearce in his experimental work before the onset of necrosis

In conclusion, I have to congratulate Professor Jardine on his unique experience of six cases of this very rare condition

I am, Sir, yours faithfully,
H LEITH MURRAY.

Liverpool, May 13th, 1913

ARTIFICIAL PNEUMOTHORAX — AND AFTER? THE MECHANICAL FACTOR IN THE TREATMENT OF PHTHISIS PULMONALIS

To the Editor of THE LANCET

SIR,—In view of the organic change which within the past 12 months has radically modified the conditions of our professional existence, it is necessary to review our relation to the problem of consumption, which we are now under contract to cure Henceforth not only have we a responsibility to pathology and therapeutics, we are responsible also to the State, which, now judge as well as paymaster, is an interested partner in our pathological and therapeutical problems not alone financially, but under a conscience clause It has undertaken the welfare of the population, hitherto from time immemorial under our sole charge, and it stands committed not to deny to any individual under the rates the genuine cure We can no longer escape a categorical statement of the endorsable value of our therapeutical assets Our pathology is monumental How much longer must it remain ornamental? As to our therapy, having discarded for a while the entire pharmacopœia, we are reduced to a game of battledore and shuttlecock between syringe and sanatorium It is enough for a fair critic that Batty Shaw is still unconvinced by the one while Wilkinson still distrusts the other The sanatorium is at best a mere preventorium—opens its doors to every earliest case, yet how many are still discharged with progressive phthisis! Tuberculin scorns it, and bargains for "neither too late nor too early " Yet within that interval of its own selection it fails more often than not

How much longer shall we wait for the authoritative jury which ought to decide between fact and opinion? Meanwhile, is it not time to resume our premicrobic consultations in the grotto, where Bodington left them, and to question Nature once more whether there might not be some other cure elsewhere? Forlanini had consulted her in 1882, just within the bacillary era, but eight years before bacteriotherapy had shed its elytra "Is it to be excision or artificial pneumothorax"? The surgical proposition was pre-Listerian, and therefore problematic The other was well supported by solid fact, ripe for discussion, but seemingly incapable of it in a microbic atmosphere, except by him alone, yet brilliantly acted upon in 1885 by W Cayley, in England, so slow to follow up his pioneer operation, although Carson long before had laid an experimental foundation for it Forlanini's non bacillary, mechanical cure was a singular instance of a method arising *d'emblée*, the offspring of a master thought, in full panoply and ready for immediate action, but too heroic, too magnificent, for practical tactics, fraught with limiting risks greater than have yet been registered, and therefore bound to pass away as ineligible for the universal cure yet imperishable in its teachings, which I venture to believe contain that cure At the latest hour, when the profession, and in this country the State, are pressing for a decisive answer, it has cut the Gordian knot, and it now demonstrates to us that there is a cure elsewhere—the cure of Piorry (1833), the cure of Freund (1858) the cure of Forlanini (1882), and that that cure, though this had not been hitherto specified categorically nor yet perhaps thoroughly realised, is the mechanical cure

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[1] THE LANCET May 10th 1913 p 1291.

[2] Journal of Obstetrics and Gynæcology of the British Empire October, 1910 Ibid, February, 1913 British Medical Journal January, 1911

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My own observations on necrosis in eclampsia have been confined to the liver, where alone have I seen it In previous communications[2] I have strongly urged that this necrosis is largely if not entirely due to hæmagglutinative thrombi—that is to say, to an actual occlusion of the vessels with massed red cells without the intervention of fibrin That these occur in the livers of eclamptic cases has been demonstrated by Flexner, Welch, and myself Further, Pearce has shown that an experimentally induced hæmagglutination is capable of causing a focal necrosis of liver cells and has very clearly proved the interrelation of this hæmagglutinative with a hæmolytic element in the production or prevention of necrosis The full references will be found in my papers quoted

It appears that this hæmagglutination occurs most readily where the circulation is very slow, and although such thrombi have not to my knowledge been described experimentally in the kidney, still the site of the focal necrosis as given by all writers on this form of renal destruction is much in favour of such an origin It would be extremely interesting and important to learn from Dr Kennedy whether any appearances of this nature are to be seen in the third and earliest of the three cases now reported In the microscopical report of one of the two livers examined Dr Kennedy comments on the very great dilatation of the capillaries that was present This may be similar to the extreme congestion noted by Pearce in his experimental work before the onset of necrosis

In conclusion, I have to congratulate Professor Jardine on his unique experience of six cases of this very rare condition

I am, Sir, yours faithfully,

H LEITH MURRAY.

Liverpool, May 13th, 1913

ARTIFICIAL PNEUMOTHORAX — AND AFTER? THE MECHANICAL FACTOR IN THE TREATMENT OF PHTHISIS PULMONALIS

To the Editor of THE LANCET

SIR,—In view of the organic change which within the past 12 months has radically modified the conditions of our professional existence, it is necessary to review our relation to the problem of consumption, which we are now under contract to cure Henceforth not only have we a responsibility to pathology and therapeutics, we are responsible also to the State, which, now judge as well as paymaster, is an interested partner in our pathological and therapeutical problems not alone financially, but under a conscience clause It has undertaken the welfare of the population, hitherto from time immemorial under our sole charge, and it stands committed not to deny to any individual under the rates the genuine cure We can no longer escape a categorical statement of the endorsable value of our therapeutical assets Our pathology is monumental How much longer must it remain ornamental? As to our therapy, having discarded for a while the entire pharmacopœia, we are reduced to a game of battledore and shuttlecock between syringe and sanatorium It is enough for a fair critic that Batty Shaw is still unconvinced by the one while Wilkinson still distrusts the other The sanatorium is at best a mere preventorium—opens its doors to every earliest case, yet how many are still discharged with progressive phthisis! Tuberculin scorns it, and bargains for "neither too late nor too early" Yet within that interval of its own selection it fails more often than not

How much longer shall we wait for the authoritative jury which ought to decide between fact and opinion? Meanwhile, is it not time to resume our premicrobic consultations in the grotto, where Bodington left them, and to question Nature once more whether there might not be some other cure elsewhere? Forlanini had consulted her in 1882, just within the bacillary era, but eight years before bacteriotherapy had shed its elytra "Is it to be excision or artificial pneumothorax"? The surgical proposition was pre-Listerian, and therefore problematic The other was well supported by solid fact, ripe for discussion, but seemingly incapable of it in a microbic atmosphere, except by him alone, yet brilliantly acted upon in 1885 by W Cayley, in England, so slow to follow up his pioneer operation, although Carson long before had laid an experimental foundation for it Forlanini's non bacillary, mechanical cure was a singular instance of a method arising *d'emblée*, the offspring of a master thought, in full panoply and ready for immediate action, but too heroic, too magnificent, for practical tactics, fraught with limiting risks greater than have yet been registered, and therefore bound to pass away as ineligible for the universal cure yet imperishable in its teachings, which I venture to believe contain that cure At the latest hour, when the profession, and in this country the State, are pressing for a decisive answer, it has cut the Gordian knot, and it now demonstrates to us that there is a cure elsewhere—the cure of Piorry (1833), the cure of Freund (1858) the cure of Forlanini (1882), and that that cure, though this had not been hitherto specified categorically nor yet perhaps thoroughly realised, is the mechanical cure

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[1] THE LANCET May 10th 1913 p 1291.

[2] Journal of Obstetrics and Gynæcology of the British Empire October, 1910 Ibid, February, 1913 British Medical Journal January, 1911

as a ground for divorce, not as a punishment, but in the interests of the sane spouse and children and countless generations to come. It matters not whether it was or was not the lunatic's fault that he is insane; in either case it is deplorable, and should evoke our deepest sympathy for everybody concerned; but we have to consider the spouse and family thus bereft of an important member and the illimitable suffering of future generations.

I am, Sir, yours faithfully,
A. HAMILTON,
Organising Secretary, Divorce Law Reform Union.
St. James-street, Piccadilly W., May 6th, 1913.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

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SIR,—You kindly published recently a letter from the National Medical Guild in which attention was called to the fact that treatment by quacks, herbalists, and others was being permitted under the "own arrangements" clause of the National Insurance Act. May we be further permitted to state that the London Insurance Committee is prepared (on the evidence of its chairman given in the House of Commons recently) to allow arrangements to be made with "homœopaths and herbalists," and this in spite of the fact that Form 43 I.C., on which application to make "own arrangements" must be made, contains the statement that "the Committee will also require to be satisfied that the treatment obtained will be of a nature, quality, and extent not inferior to that obtained under the panel system."

The Parliamentary representative of the Insurance Commissioners—namely, Mr. Masterman—has made it clear that the matter is one for the discretion of the Committees, and one which he did not feel disposed to take up. Seeing that this has been a bone of contention in Germany and other continental countries, it is well that the profession in England should take the matter in hand as early as possible, and the first step to this is to understand it fully. We would therefore ask you to be so good as to give publicity to this letter. I am, Sir, yours faithfully,

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(for the National Medical Guild)
34, Villiers street, W.C., May 6th, 1913.

MEDICAL DEFENCE UNION.—The annual general meeting of the Union will be held on May 29th, at 4 P.M., at New London Hotel, Exeter, when the usual statutory resolutions will be placed before the members, together with the annual report and balance sheet.

SWANSEA HOSPITAL.—The accommodation at the Swansea General and Eye Hospital has been materially increased by the completion of a new block which was opened on May 3rd by Lady Mond The building is three storeys high, and on the ground floor there are a new dispensary and waiting-rooms and a large waiting hall, leading out of which are four casualty wards, dressing-rooms, bathrooms, and a porter's room. On the first floor are a 12-bed ward, to be called the Patti Ward, and a two-bed ward, the cost and maintenance of which are being borne by Mr. Roger Beck. On the second floor there is accommodation for 14 patients. On each of the two upper floors are nurses' kitchens, bathrooms, &c. The cost of this block is about £13,000, and is the first instalment of a general scheme of enlargement decided upon in 1911, which it was [illegible] £30,000. A legacy

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MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 1270.)

IX.—RURAL PRACTICE IN SCOTLAND.

How the Act Assists the Well-to-do Resident.

MILNGAVIE, a village on the outskirts of Glasgow, with an estimated population of 3481 persons, is in the centre of farm-land. I went there to see how the Act worked in what was represented to me as being a typical rural centre, and found three similar districts adjoining each other with seven practitioners between them. All seven practitioners are on the panel, and their work overlaps. They are, I was informed, on the panel not from choice but from necessity. It was, they considered, their only course in the circumstance in which they were placed. They were too near to Glasgow, where there might be a large supply of medical men from whom assistance could have been obtained by the Local Committee if they had attempted any strenuous resistance. Moreover, they felt that they did not know how the new Act would work. Thus a practitioner at Bearsden, one of the three districts, did not imagine he would have more than a dozen or two insured persons on his list. To his great surprise he found something like 500 names; yet this is a purely residential district, where everyone hitherto had paid the usual fees and there had been no clubs and no contract work. In such a neighbourhood it did not seem possible that 500 persons would be insured under the Act, and that no less than that number should appear on one practitioner's list was entirely contrary to expectation. It was soon apparent that these insured persons were youths and young women, the grown-up children of his well-to-do patients, who were occupied as office boys, clerks, or typists in their father's business or in the businesses of friends. Formerly, if any of these young folk fell ill, their parents paid full fees for medical attendance. Now they are all insured, and the question is whether the 500 yearly payments will represent a larger sum than the occasional but full fees formerly received This is a matter that concerns the nation as well as the patients and their medical attendants. It means that the community, by its representative the State, is now paying 2*d.* a week towards the cost of sick allowance, medicine, and medical attendance for the children of well-to-do families, who formerly met the whole of this outlay out of their own private resources. In the past such a call on their purses was considered no hardship, and the question arises whether it is right to tax the whole community so as to provide 2*d.* a week for each of these sons and daughters of well-to-do families. Though this matter was brought to my notice in regard to the residential district of Bearsden it applies to the country at large. I am sure that the same point must arise in many districts, and when in the course of my tour my attention is again brought to it I shall be able to deal with it in a few words, and avoid needless repetitions, if I refer my readers to the conditions at Bearsden.

How the Act Assists the Farmer.

It is not only the children of prosperous business men who profit by the Act to get a State contribution in the event of illness. At the other end of the social scale the agricultural labourers are also adding to public expenditure. Undoubtedly if the State should aid individuals to insure against sickness none are more deserving of such assistance than agricultural labourers. But the matter does not work out exactly in this way. It is the farmer who receives State aid, and however much the British farmer may require State subsidy in his present somewhat anxious position, it was not the intention of the National Insurance Act to afford it. In Scotland there has been so much emigration that agricultural labour is hard to obtain, and the wages paid are much higher than in England. A labourer easily obtains 15*s.* a week besides his board and lodging on the farm, and hitherto medical attendance has been included. The farmer paid for the medical attendance upon his men, and not only paid full fees, but, if he sold milk, he very frequently sent for the doctor. It is absolutely necessary that the farmer should guard himself from the risk of *as a ground for divorce, not as a punishment, but in the* interests of the sane spouse and children and countless generations to come. It matters not whether it was or was not the lunatic's fault that he is insane; in either case it is deplorable, and should evoke our deepest sympathy for everybody concerned; but we have to consider the spouse and family thus bereft of an important member and the illimitable suffering of future generations.

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BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Health of the City.

THE report of the medical officer of health for the first quarter of this year states that the population of the city is estimated at 859,644, an increase of 8697 as compared with the first quarter of last year. The number of births was 5761, or 26·9 per 1000. There were 3544 deaths, equal to 16·5 per 1000, as compared with 16·2 last year. The death-rate, whilst only slightly higher than last year, was considerably higher than in 1910 and 1911, when it was 15·2 in the same quarter. There were 750 deaths of infants under one year old, about one-fifth of the whole number. On the other hand, there were 335 deaths of persons between 75 and 85, and 73 deaths over 85, including 1 death at 110 years. The following show the deaths from infectious diseases: enteric fever, 6; small-pox, 0; measles, 275; scarlet fever, 55; whooping-cough, 16; diphtheria, 44; pulmonary tuberculosis, 306; and other forms of tuberculosis, 64. The number of notifications received were: enteric fever, 25; scarlet fever, 1714; diphtheria, 219; erysipelas, 184; pulmonary tuberculosis, 1225; other forms of tuberculosis, 385; cerebro-spinal fever, 1; poliomyelitis, 1; puerperal fever, 24; and ophthalmia neonatorum, 54. Teachers in elementary schools reported 2672 cases of measles, 227 of whooping-cough, and 1347 cases of mumps. The number of cases of scarlet fever was exceptionally large, the nearest approach being 1389 in 1902, but both scarlet fever and measles showed a decline as compared with the last quarter of 1912.

The City Analyst's Report.

Last year 4136 samples were submitted for analysis, and of these 7·9 per cent. were found to be adulterated. Of 1616 samples of milk 4 contained boric acid, 6 saltpetre, and 132 contained added water or were deficient in fat, the percentage of adulteration being 8·2. Over 1000 samples of butter were examined, and 5·1 per cent. were found adulterated. With regard to margarine, the report observes that it is unfortunate the law does not require that each pound-roll of margarine when packed in a box should be marked "margarine." If this were so honest vendors could not make mistakes, and a further difficulty would be put in the way of dishonest ones. At present only the box is marked, so that a fraudulent vendor has only to take the rolls from the box and they are ready for sale as butter. Of 30 samples of aerated waters 17 were adulterated. Referring to non-alcoholic wines, the report relates that the inspector went into a shop and asked for "non-alcoholic wine." He received a bottle labelled "ginger wine" and another labelled "orange wine." He especially asked if they were non-alcoholic and was told that they were. Analysis showed that the ginger wine contained 11·8 per cent. of absolute alcohol and the orange wine 10·0 per cent. Of 143 samples of drugs 28 from 15 different vendors were found to be impure.

Medical Men and the Royal Army Medical Corps (T.).

At a meeting of the Warwickshire Territorial Association the difficulties in the way of medical men joining the Royal Army Medical Corps Units were considered, and it was resolved that representation should be made to the War Office. Apparently the demands upon the time of medical men who have joined the panel are so great that they are unable to give the time to ambulance work, and difficulty is arising in finding the number of officers required.

Health Week.

Much interest has been taken in the city in the health propaganda of the last week. Two large meetings were held in the town-hall. At the first the Lord Mayor presided, and a lecture was given by Dr. J. Robertson, the medical officer of health, on the "Better Birmingham of the Future," with special reference to its works and workers. The work of the health committee was described and the lines upon which future reforms should proceed. At the second meeting Alderman Fletcher, the chairman of the health committee, presided, and Mr. Gilbert Barling gave an address full of practical advice to workers upon the care of their health. Lectures were given every evening in various council schools, sermons were preached in most of the churches, and addresses were given in the adult schools and elsewhere. The adult schools are continuing their campaign against consumption, begun last summer when the Anti-Tuberculosis Exhibition visited Birmingham. It was realised that this exhibition, although attended by a very large number of people, did not reach many in the poorest parts of the city. The adult schools are, therefore, holding exhibitions on a smaller scale in the poorer quarters, and lectures are given by medical men and city councillors.

The Children's Hospital.

On April 23rd H.R.H Princess Louise, accompanied by the Duke of Argyll, laid the foundation stone of the new buildings and unveiled the statue of King Edward VII. The new hospital and statue form the King Edward VII. Memorial provided by public subscriptions. The sum subscribed was £32,808, and of this £2700 have been expended upon the statue. The total cost of the building and furnishing of the hospital is estimated at £62,000. The amount in the hands of the committee being £49,000, a further sum of £13,000 is required.

May 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Conference of Scottish School Medical Officers.

THIS conference took place in the Heriot-Watt College, Edinburgh, on May 1st and 2nd, Dr. Carstairs C. Douglas, principal lecturer in hygiene to Glasgow Provincial Committee, being in the chair. Dr. W. Leslie Mackenzie delivered an opening address on the Social Significance of Medical Inspection; Dr. A. Campbell Munro read a paper on the Hygiene of the School; Dr. George Rose discussed the opportunities afforded for medical research by school inspection. After a visit to Dunfermline to witness the fullest development of medical inspection, including the College of Hygiene and Physical Training, where students became qualified as teachers, Dr. L. D. Cruickshank gave an [illegible] Organisation of Physical Education as an [illegible]. On the [illegible] Inspector [illegible] a brief address by Sir John Struthers, K.C.B., in which he dwelt on the importance of school medical inspection and the need for coöperation of medical officers and inspectors, Dr. Alister T. Mackenzie, administrative medical officer of the Carnegie [illegible] Training Profession. Dr. Isabella D. Cameron then read a paper by Dr. Darling, medical officer of the Edinburgh Provincial Committee, in which some typically difficult cases that come under the medical examination of candidates in the teaching profession were discussed. In the afternoon Dr. James Ritchie presided, and Dr. J. Halley Meikle read a paper on Medical Treatment in Towns, and Dr. J. Maxwell Ross one on Medical Treatment in the Counties.

Medical Inspection of Children in Scotland.

The Committee of Council on Education in Scotland have issued a minute requiring that the medical inspection of children in schools within the area of every school board shall be conducted in accordance with the regulations embodied in the Department's memorandum on the medical inspection and supervision of school children bearing the date March 31st, 1909; also that in cases where such inspection is not provided for under a scheme approved of by Section 17 (6) of the Education (Scotland) Act, 1908, it should be conducted by a medical practitioner who (*a*) holds the Diploma in Public Health or possesses other qualifications which are accepted by the Department as equivalent thereto, or (*b*) is not engaged in private practice. It is also stated that nothing in the minute shall prejudice the right of any school board to institute a supplementary scheme of medical inspection for the children attending schools within their district, provided that any such supplementary scheme has been submitted beforehand to the Department for approval.

Research in Materia Medica at Glasgow University.

At a recent meeting of the University Court at Glasgow

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(FROM OUR OWN CORRESPONDENTS.)

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THIS conference took place in the Heriot-Watt College, Edinburgh, on May 1st and 2nd, Dr. Carstairs C. Douglas, principal lecturer in hygiene to Glasgow Provincial Committee, being in the chair. Dr. W. Leslie Mackenzie delivered an opening address on the Social Significance of Medical Inspection; Dr. A. Campbell Munro read a paper on the Hygiene of the School; Dr. George Rose discussed the opportunities afforded for medical research by school inspection. After a visit to Dunfermline to witness the fullest development of medical inspection, including the College of Hygiene and Physical Training, where students became qualified as teachers, Dr. L. D. Cruickshank gave an [illegible] as an [illegible] On the [illegible] Inspector [illegible] a brief address by Sir John Struthers, K.C.B., in which he dwelt on the importance of school medical inspection and the need for coöperation of medical officers and inspectors, Dr. Alister T. Mackenzie, administrative medical officer of the Carnegie [illegible] Training Profession. Dr. Isabella D. Cameron then read a paper by Dr. Darling, medical officer of the Edinburgh Provincial Committee, in which some typically difficult cases that come under the medical examination of candidates in the teaching profession were discussed. In the afternoon Dr. James Ritchie presided, and Dr. J. Halley Meikle read a paper on Medical Treatment in Towns, and Dr. J. Maxwell Ross one on Medical Treatment in the Counties.

Medical Inspection of Children in Scotland.

The Committee of Council on Education in Scotland have issued a minute requiring that the medical inspection of children in schools within the area of every school board shall be conducted in accordance with the regulations embodied in the Department's memorandum on the medical inspection and supervision of school children bearing the date March 31st, 1909; also that in cases where such inspection is not provided for under a scheme approved of by Section 17 (6) of the Education (Scotland) Act, 1908, it should be conducted by a medical practitioner who (*a*) holds the Diploma in Public Health or possesses other qualifications which are accepted by the Department as equivalent thereto, or (*b*) is not engaged in private practice. It is also stated that nothing in the minute shall prejudice the right of any school board to institute a supplementary scheme of medical inspection for the children attending schools within their district, provided that any such supplementary scheme has been submitted beforehand to the Department for approval.

Research in Materia Medica at Glasgow University.

At a recent meeting of the University Court at Glasgow

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MACMILLAN COMPANY, THE, New York

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MASSON ET CIE, Paris

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[illegible]

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[illegible] AND WORKHOUSE —Senior Resident [illegible] salary £130 per annum, with board, apartments, &c

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(Chicago).—Congress of the International Association of Refrigeration.
(Washington).—Congress of American Physicians and Surgeons.
(London).—Anglo American Exhibition.
(Vienna).—Third International Congress for Professional Diseases.
(Auckland, N.Z.).—Australasian Medical Congress.
(St. Petersburg).—Third Mendeléeff Congress of Pure and Applied Chemistry and Physics.
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Aug. 10th–15th (St. Petersburg).—Twelfth International Congress of Ophthalmology.

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Letters, whether intended for insertion or for private information, must be authenticated [illegible] their writers—not necessarily [illegible]

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A Presidential Address

ON

SOME INDUSTRIAL ACCIDENTS AND DISEASES.

Delivered in the Section of Industrial Hygiene at the Congress of the Royal Institute of Public Health at Paris on May 16th, 1913,

BY SIR THOMAS OLIVER, M.D. GLASG., F.R.C.P. LOND.,

PROFESSOR OF PRACTICE OF MEDICINE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, NEWCASTLE-UPON-TYNE.

GENTLEMEN,—A century ago factory owners, in order to increase production and have a reliable source of energy, substituted steam for water as the motive power. This was followed by industrial and social events of a far-reaching nature.

INDUSTRIAL EMPLOYMENT OF ELECTRICITY.

The replacement of steam by electricity in modern days is not less again a step in advance of that of previous decades. One effect of the replacement of water-power by steam was dislocation of industries. Factories came no longer to be built upon the banks of rural streams but in towns where labour was abundant, or in close proximity to coal-fields where fuel was cheap. One of the drawbacks to the use of coal is the smoke which is created. This shuts out sunlight and so contaminates the atmosphere as to render it less fit for breathing purposes, while it increases the susceptibility of the respiratory organs to disease. Some of the large iron manufacturing districts in England have always a high death-rate from pneumonia and acute bronchial affections. It is known that since Germany has become more industrial her mortality-rate from pulmonary diseases other than tuberculosis has markedly risen, and this, too, during a period when the number of deaths from pulmonary tuberculosis has been falling. For this rise in the mortality-rate the increasingly large volumes of smoke thrown into the atmosphere are said to be answerable. Where electricity is the motive-power in factories and on railroads the atmosphere remains clear. By substituting electricity for steam one danger at least is thus got rid of; but electricity has dangers of its own, dangers of an acute and serious nature, and so subtle in their incidence as frequently and unexpectedly to entrap the unwary.

Electrical Accidents.

We can never tell exactly what number of deaths from acute pulmonary diseases are due to the effects of smoke and fog alone, but in countries where deaths from electrical injuries are notified the number of persons killed, also the number of persons seriously injured, can be estimated. In Great Britain the number of electrical accidents occurring in generating stations during 1911 was 74, compared with 58 for 1910, the number of deaths being 4 for each year. In factories the cases numbered 290 for 1911 and 276 for 1910, the deaths being 7 in 1911 and 5 in 1910. It is interesting to note that while in Great Britain the use of electrical energy for motive-power has risen from 30,999 horse-power in December, 1902, to 774,000 in December, 1911, there has been practically speaking no increase in the number of electrical accidents since 1907. The check in the number of accidents, according to the electrical inspector of factories, followed the issue of draft regulations by which the attention of occupiers and engineers was directed to questions of safety. The numbers given refer only to accidents in factories and generating stations; for taking the number of deaths from electricity all over the country they were 29 in 1909 and 26 in 1910, only 9 of these in 1910 occurring in generating stations and factories. As bearing upon the growing application of electricity to the industrial needs of France the increasing number of persons notified as having suffered from electrical injuries is not without significance. In 1907 there were 571 persons injured; in 1908, 773; in 1909, 778; 909 in 1910; while in 1911 the numbers rose to 1027. Taking the figures for 1911, which M. Boulin, inspecteur divisionnaire de travail of Lille, has sent me, of those injured 52 died, 12 were permanently incapacitated, and 927 were temporarily indisposed; of the remainder the results are not stated. To the above must be added other 30 persons injured in connexion with mines; of these 4 died, 1 was permanently incapacitated, and 25 temporarily so.

It is no light toll which this comparatively unknown power so recently introduced into our industries is exacting from the workers. It is one in regard to the operation of which working men must be ever on their guard, for the occasions upon which electrical currents can be used will not tend [illegible] from its [illegible] it is [illegible] in [illegible] increasingly employed. Old methods of production in chemical works are disappearing, new methods into which electricity enters are taking their place, and these are not free from danger. Because the current can be readily turned on in a factory, electricity is a force of wide application. It has been used, for example, for drilling iron plates, but the electric drill has been superseded by that worked by compressed air on account of this drill being driven more rapidly and effectively.

Causation and Nature of Electrical Accidents.

Where men have succumbed to electrical shock there may be no external marks to explain the fatality. In other instances there are burns. These when present are irregular, frequently deep, and extend down to the bone. I shall not dwell at length upon the question of what pressures of electrical currents are within the limits of safety. To measure the pressure or tension of electrical currents the term "voltage" is employed, while by "ampèrage" is meant the rate of flow. "Alternating" currents are usually regarded as more dangerous than "continuous." When death has been caused by electricity the question is generally asked, What was the voltage of the live metal at the time of the accident? The influence of ampèrage ought, however, to be considered as well as voltage. Voltages above 1000 are dangerous, but Jellinek reports a fatality where the individual had been brought into contact with only 65 volts. It is the mode of contact which is the important circumstance, also the unexpectedness of the contact, for electricians can, and do, frequently touch with their hands wires carrying currents of 5000 volts and more without experiencing any serious inconvenience. Much depends upon whether at the time of contact the skin is dry or moist, whether the workman's clothes and boots are dry or not, also whether he is standing on damp earth. The thick, hard, and dry skin of a workman's hand is less favourable to the penetration of an electrical current than the delicate or moist skin of a clerk. Although intangible, electricity is a saleable product. As a commercial commodity the dangers incidental to its generation and transmission bring it within the range of industrial hygiene. A few years ago my colleague, R. A. Bolam, and myself, by a series of experiments upon animals, satisfied ourselves that death in electrical shock from continuous currents is due to arrest of the action of the heart, and that by means of artificial respiration carried on for a considerable time dogs apparently killed could be resuscitated. In a few of our experiments, just as in those of M. Prévost and M. Batelli, death came through stoppage of the breathing as well as by arrest of the heart's action. No matter how workmen have been struck by an electrical discharge with an apparently fatal result, artificial respiration is the only reliable method to adopt to restore life.

My object in alluding to the dangers incidental to electricity is not simply to point to the increasing demand for electricity in industrial concerns nor to explain how death comes, but to draw attention to an opinion which has been advanced by M. Prévost and M. J. Reverdin, of Geneva. The burning and destruction of the skin in electrical injuries have a significance which ought not to be overlooked. Burning means bad rather than good contact. Once charring and destruction of the superficial skin have taken place, resistance to further penetration of the current is increased and death is thereby possibly averted. I have seen men with severe electrical burns recover, and I have also seen death

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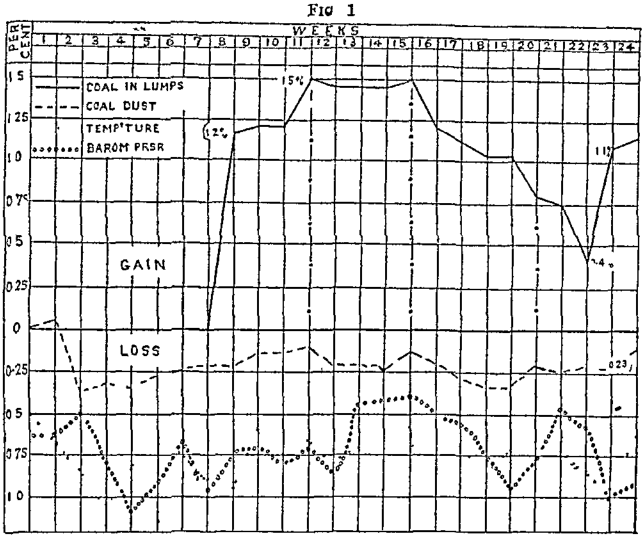
No. 4684.

age and occupation of its victims Years ago Earl published notes of three cases of cancer occurring on the hands of gardeners who had been distributing soot among plants All the men were under the age of 30 Earl's father described a case of cancer of the scrotum in a boy 8 years of age who was a chimney sweep, and Sir James Paget observed the disease in the ears of workmen who had carried sacks of soot on their shoulders Mortality figures show that in England and Wales cancer among chimney-sweeps is twice as frequent as in occupied males generally. The comparative mortality figures for cancer among chimney-sweeps between the ages of 26 and 65 was for the three years ending 1903 133, as compared with 63 occupied males at the same ages[1] We must therefore admit that the chimney sweep's occupation is a cause of cancer

FIG 1

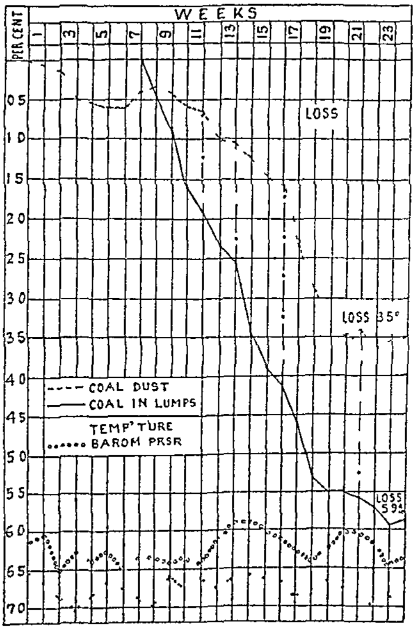


Weekly alteration of weight of coal in lumps and in form of dust Bituminous Pennsylvanian coal U S A

Gasworks Pitch and Cancer

It has long been known that persons engaged in the distillation of tar and the manufacture of grease and of briquettes, which contain coal tar oils, exhibit a peculiar swarthiness of the skin and are liable to warts and epithelioma, but it is only recently that any serious attempts, based upon clinical experience, chemical inquiry, and pathological investigation, have been made to explain the reason why, in the manufacture of patent fuel, cancer is found in men who work with gasworks pitch and not with that obtained from blast furnaces Allusion must therefore be made to the excellent work which has been done in this direction by Mr H O Ross and Dr J W Cropper, of the Lister Institute, London, also by Mr H Bayon, of Cape Colony Pitch is made from tar and tar from coal In gasworks, coal is placed in retorts and heated The gas given off is collected and distributed for illuminating and heating purposes, while the ammoniacal liquor which is formed has a commercial value The residue left in the retorts is tar This is sold to tar distillers, who by carrying the distillation further obtain phenol, creosote, naphthalene, and other valuable saleable products The residue of this distillation is known as pitch For making briquettes, small coal, anthracite dust, and pitch are used Pitch and coal dust in the proportion of 9 of pitch to 10 of coal dust are intimately ground together and thoroughly mixed The material is then taken to the pug-mills, where it is moistened by steam, and passed on to the presses where it is moulded into the forms with which we are familiar Ross and Cropper took watery extracts of the tar from which briquettes are made and tested their effects upon individual cells *in vitro* In gasworks tar they found certain chemical products which were not present in blast furnace pitch There were found in gasworks tar *auxetics*[2]—that is to say, chemical bodies liberated from cells at their death, and which when absorbed by the living cells of the tissue of an injured part stimulate these cells to unwonted activity, thereby favouring the healing of wounds, also *kinetics*, bodies which as augmentors excite amœboid movement in leucocytes and epithelial cells Acting in cooperation these two bodies stimulate cell growth, auxetics causing benign cell proliferation and kinetics cell proliferation which tends to malignancy Watery extracts of gasworks tar and of blast furnace tar were taken and injected separately into the subcutaneous tissues of animals, with the result that cell proliferation and swellings were always produced at the site of the inoculation with gasworks tar, while no such swellings akin to those caused by the gasworks product followed the injection of blast furnace tar The harmful bodies present in the gasworks tar must therefore be the auxetics and kinetics It can hardly be at any rate, the pitch dust, since no dust was present when Ross and Cropper carried on their experiments When men are making briquettes in an atmosphere laden with pitch dust and are perspiring the falling dust adheres to the moist skin, and

FIG 2



Weekly alteration of weight of coal in lumps and in form of dust Sub-bituminous Pennsylvanian coal U S A

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[1] Report of Committee on Compensation for Industrial Diseases, p 9

[2] The Problem of the Gasworks Pitch Industries and Cancer The Wm Howard McFadden Researches, London John Murray

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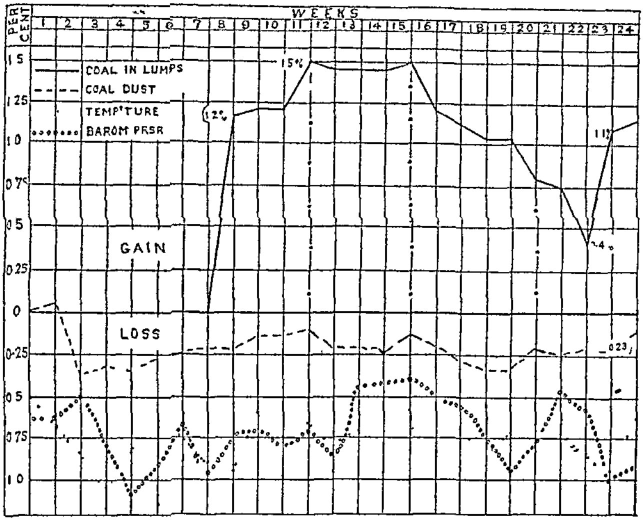

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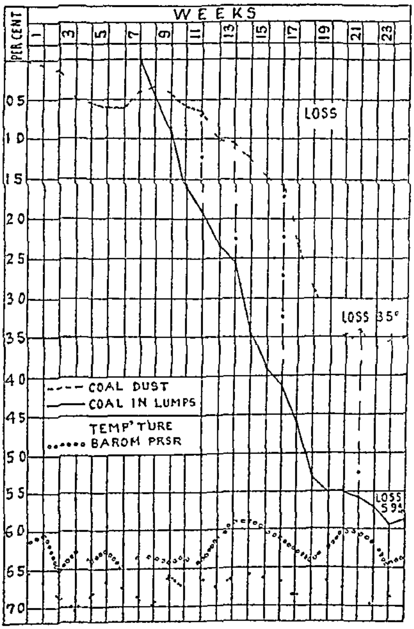

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I have devised an incision which appears to me to pass all the tests of a perfect abdominal incision It is small—that is to say, it is only three inches long It is a muscle splitting incision, and it crosses no nerve trunks or large blood vessels It cannot, therefore, give rise to a hernia, yet through it the whole of the pelvic ureter can be isolated and explored, and the operations be performed of uretero lithotomy, ureterectomy, and cysto ureterotresis [1]

I propose first to describe the incision and the operation for removal of stone in the lower ureter, secondly, to explain the rationale of the incision and the facts on which it is based, and finally, to add a list of the various operations which I have performed in the last two years through it

Description of Operation

The patient is anæsthetised preferably by stovaine spinal anæsthesia, and placed in the Trendelenburg position in order that the intestines may fall out of the pelvis and that light may penetrate the depths of the wound An incision is made through the skin and superficial fascia two fingers' breadth (one and a half inches) above and parallel to Poupart's ligament It is three inches long, and should extend from the edge of the rectus muscle two inches outwards and one inch inwards The centre of the incision lies vertically above the internal abdominal ring

The external oblique aponeurosis having been recognised and cleared of fat, the incision is carried through it in the direction of its fibres one inch inwards in front of the rectus muscle and two inches outwards from that muscle The external oblique aponeurosis does not usually fuse with the internal oblique aponeurosis to form the anterior sheath of the rectus muscle until at least one inch inside the edge of that muscle The cut edges of the external oblique aponeurosis are retracted so as to expose the internal oblique muscle and its sheath, the fibres of which at this point are horizontal or run slightly inwards and upwards and in the same direction as the fibres of the transversalis muscle The incision is now carried through these two muscles in the direction of their fibres for two inches outwards from the *outer edge of the rectus muscle* and *one inch inwards* through the anterior sheath of that muscle By this step the edge of the rectus muscle is clearly exposed, and the muscle belly must now be gently separated from its posterior sheath and retracted firmly inwards By this manœuvre much extra space is gained, and it is now possible to see the deep epigastric vessels as they pierce the transversalis fascia and insinuate themselves in front of the semilunar fold of Douglas to enter the rectus sheath

A finger placed just external to and above the point [illegible] sheath is [illegible] the [illegible] is so thin at this point that it is not advisable to try to divide it as a distinct layer with the knife for fear of opening into the peritoneum The transversalis fascia can then be divided with a blunt pointed bistoury outwards for the full length of the wound The finger must now be used to separate the peritoneal coat in the layer of the subperitoneal fat from the back wall of the iliac fossa and the side wall of the pelvis In the male the first structures encountered on the back wall of the fossa are the vas deferens, which should be cleared and retracted downwards and inwards, and the spermatic vessels, which should be cleared and retracted upwards and outwards In the female the ovarian vessels and round ligament correspond to these structures and should be treated in the same manner

The external iliac artery, easily recognised by its pulsation, is now cleared and followed up till the common and internal iliac arteries are likewise cleared The ureter crosses the brim of the pelvis *over the external iliac artery* and runs down the side wall of the pelvis parallel to and just in front of the internal iliac artery It lies attached to the peritoneal coat by means of a thin fascial envelope and it tends to be stripped inwards and upwards with this coat For this reason there may be some difficulty in recognising it, but by rolling the parts between the finger and thumb one can usually detect it and strip it out of its bed by means of two pairs of dissecting forceps nine inches long specially designed for this work While this is being done it may be necessary to have the parts strongly retracted with long narrow bladed retractors and to make use of a head lamp

The ureter is to be exposed at the point where it crosses the external iliac artery and cleared out of its bed for two or three inches above and below A blunt hook is passed beneath it so as to steady it and bring it nearer to the surface Two stitches of the finest chromic catgut on the finest curved needles held in a modified Halsted's needle-holder are inserted through the walls a short distance apart and parallel to one another in the long axis of the ureter These serve as retractors to steady the ureter for incision In these cases the urine is usually aseptic so that it suffices to place strips of gauze beneath the ureter to soak up the escaping urine, but if the urine is very septic it is advisable to clamp the ureter with a fine pair of intestinal clamps above the level of the proposed incision By means of a sharp tenotome a tiny longitudinal incision is made into the ureter A ureteric bougie is inserted down the cut and the position of the stone noted Special ureteric stone forceps are then gently insinuated down the tube and a few trials are generally successful in grasping the stone and lifting it out of the wound A bougie is passed into the bladder to make sure the way is clear The cut in the ureter is united by a single layer of finest chromic catgut stitches passing through all its coats This layer is covered in by another layer taking up the peri ureteric tissues and covering in the first layer

When the ureter is much dilated this procedure is easy, but in a small ureter it needs care and patience When properly performed I find that no leakage of urine occurs at all, and the wound heals by first intention and without any suppuration This is such a great gain for the patient that I cannot agree with those who recommend that the wound be left unstitched or only partially stitched It is true such a wound will heal up in time but at the cost of a lengthened convalescence and a weakened scar, and with the added risk of infection of the urine itself

The advantages are great of removing the stone in this manner The stone is brought up to a healthier portion of the ureter than that in which it lies so that the wound can heal by first intention, and there is less risk of subsequent stricture formation If at first the stone cannot be dislodged with forceps and brought up to the pelvic brim, one can often accomplish this by inserting a gloved finger into the vagina or rectum and manipulating the stone upwards from below Should this manœuvre fail, as it did in Cases 2 and 6 the ureter must be cleared out of its bed right up to the wall of the bladder In the female the uterine artery and vein have to be cut between two ligatures before one can get at the lowest portion of the ureter, and in the male the obliterated hypogastric or superior vesical artery may have to be cut across and the vas strongly retracted upwards and outwards In this way I was able to remove two stones which were almost intramural by cutting down directly on to them in the lowest part of the ureter Even at this depth stitching of the ureter can be carried out if patience be exercised

When the wound in the ureter has been dealt with the peritoneum is allowed to fall back into place a long strip cut from a rubber glove being carried from the site of the wound in the ureter up and out of the wound at the edge of the rectus Such a drain has been found by experience to draw off fluid as well as a tube, and after it has been removed leaves practically no loophole in the wound for escape of a hernia The split fibres of the internal oblique and transversalis muscles are united with chromicised catgut outside the drain The cut anterior sheath of the rectus formed by the aponeurosis of the muscles is then united in similar fashion inside the drain The split external oblique aponeurosis is united with a second layer of stitches, and finally the skin is united with silkworm gut

The patient is nursed for the next two days turned over on to the side on which the wound lies and with the head down so as to encourage drainage As a matter of fact no leakage occurred in any of my cases except Case 2 and the wound being firmly healed the patient has been allowed up on the tenth to the twelfth day and has usually left the hospital by the fourteenth to sixteenth day Urotropine is given regularly both before and after the operation so that ureteric stone are young men in the prime of life, and it is not good surgery to condemn such men to a ventral hernia if it is possible to avoid it

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[1] In cases of acute appendicitis when the effusion is inguinal and pelvic this incision gives much better access to the parts than the usual gridiron or Battle's incision

I have devised an incision which appears to me to pass all the tests of a perfect abdominal incision It is small—that is to say, it is only three inches long It is a muscle splitting incision, and it crosses no nerve trunks or large blood vessels It cannot, therefore, give rise to a hernia, yet through it the whole of the pelvic ureter can be isolated and explored, and the operations be performed of uretero lithotomy, ureterectomy, and cysto ureterotresis [1]

I propose first to describe the incision and the operation for removal of stone in the lower ureter, secondly, to explain the rationale of the incision and the facts on which it is based, and finally, to add a list of the various operations which I have performed in the last two years through it

Description of Operation

The patient is anæsthetised preferably by stovaine spinal anæsthesia, and placed in the Trendelenburg position in order that the intestines may fall out of the pelvis and that light may penetrate the depths of the wound An incision is made through the skin and superficial fascia two fingers' breadth (one and a half inches) above and parallel to Poupart's ligament It is three inches long, and should extend from the edge of the rectus muscle two inches outwards and one inch inwards The centre of the incision lies vertically above the internal abdominal ring

The external oblique aponeurosis having been recognised and cleared of fat, the incision is carried through it in the direction of its fibres one inch inwards in front of the rectus muscle and two inches outwards from that muscle The external oblique aponeurosis does not usually fuse with the internal oblique aponeurosis to form the anterior sheath of the rectus muscle until at least one inch inside the edge of that muscle The cut edges of the external oblique aponeurosis are retracted so as to expose the internal oblique muscle and its sheath, the fibres of which at this point are horizontal or run slightly inwards and upwards and in the same direction as the fibres of the transversalis muscle The incision is now carried through these two muscles in the direction of their fibres for two inches outwards from the *outer edge of the rectus muscle* and *one inch inwards* through the anterior sheath of that muscle By this step the edge of the rectus muscle is clearly exposed, and the muscle belly must now be gently separated from its posterior sheath and retracted firmly inwards By this manœuvre much extra space is gained, and it is now possible to see the deep epigastric vessels as they pierce the transversalis fascia and insinuate themselves in front of the semilunar fold of Douglas to enter the rectus sheath

A finger placed just external to and above the point where the deep epigastric vessels enter the rectus sheath is

the

is so thin at this point that it is not advisable to try to divide it as a distinct layer with the knife for fear of opening into the peritoneum The transversalis fascia can then be divided with a blunt pointed bistoury outwards for the full length of the wound The finger must now be used to separate the peritoneal coat in the layer of the subperitoneal fat from the back wall of the iliac fossa and the side wall of the pelvis In the male the first structures encountered on the back wall of the fossa are the vas deferens, which should be cleared and retracted downwards and inwards, and the spermatic vessels, which should be cleared and retracted upwards and outwards In the female the ovarian vessels and round ligament correspond to these structures and should be treated in the same manner

The external iliac artery, easily recognised by its pulsation, is now cleared and followed up till the common and internal iliac arteries are likewise cleared The ureter crosses the brim of the pelvis *over the external iliac artery* and runs down the side wall of the pelvis parallel to and just in front of the internal iliac artery It lies attached to the peritoneal coat by means of a thin fascial envelope and it tends to be stripped inwards and upwards with this coat For this reason there may be some difficulty in recognising it, but by rolling the parts between the finger and thumb one can usually detect it and strip it out of its bed by means of two pairs of dissecting forceps nine inches long specially designed for this work While this is being done it may be necessary to have the parts strongly retracted with long narrow bladed retractors and to make use of a head lamp

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CASE 13.—Male, aged 37 years. Four months' history; chronic
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Result two

OBSERVATIONS ON "DIAGNOSTIC" TUBERCULIN.

BY NOEL D. BARDSWELL, M.D. EDIN.,
M.R.C.P. LOND. & EDIN., F.R.S.E.,
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MIDHURST, SUSSEX.

WITH the introduction of the tuberculin test it was hoped that much of the difficulty attending the recognition of pulmonary tuberculosis in the early stages would be removed, and that in a case presenting signs and symptoms suggestive of tuberculosis, but lacking the definite proof afforded by the presence of tubercle bacilli, the application of the tuberculin test would determine the existence or non-existence of the disease. This hope has not been fulfilled. Some clinicians, however, are still of the opinion that by the use of tuberculin in such cases a definite diagnosis can be arrived at. Those who hold this view believe that a general reaction—namely, a rise of temperature, malaise, &c.—to diagnostic doses of tuberculin is sufficient proof of the existence of what may be termed "clinical tuberculosis." If, in addition, there are signs or symptoms suggestive of pulmonary tuberculosis, a positive diagnosis, in their opinion, is justified.

This view unfortunately cannot be maintained. Franz in particular has shown that a very large proportion of apparently healthy men who present no signs or symptoms whatsoever of tuberculosis give a general reaction to diagnostic doses of tuberculin, especially so if the individuals thus examined came from a district in which tuberculosis is prevalent. Such cases Lawrason Brown, of the Adirondack Sanatorium, terms "non-clinical" tuberculosis. It is probable that in such cases there has been at some time an infection with tubercle; the infection, however, has never reached the stage at which it can be diagnosed clinically, is in many cases probably obsolete, and requires nothing in the way of active treatment.

It may be said with confidence that in healthy persons the tuberculin reaction is of no clinical significance, and that in a case of ill-health a reaction to tuberculin is, in itself, no evidence that tuberculosis is the cause of the symptoms. In brief, it is generally recognised that so far as pulmonary tuberculosis is concerned tuberculin for diagnostic purposes has great limitations, since a reaction occurs as readily in cases of mere infection with tuberculosis (non-clinical tuberculosis) as in clinical tuberculosis, and in respect to clinical tuberculosis we are unable to differentiate with any certainty by the use of tuberculin between cases of active, quiescent, and arrested disease. There are, however, good grounds for holding that in the case of a patient presenting indefinite signs and symptoms the failure to react to a subcutaneous dose of 10 milligrammes is strong evidence against the existence of clinical tuberculosis, and that conversely the occurrence of a focal reaction in a suspected area in the lungs is suggestive of the existence of potentially active tubercular disease.

The above represents very briefly the state of our knowledge of the value of tuberculin as a means of diagnosis at the date of the commencement of our work on tuberculin. Since that date (October, 1911) every patient at the sanatorium in whom we have failed to find tubercle bacilli has been subjected to the subcutaneous tuberculin test. In this report I propose to record the results of these observations, and to indicate to what extent we have been influenced by them in the diagnosis and treatment of these particular cases. The number of patients thus observed up to March 31st amounted to 50.

Method of observation.—The patient (afebrile patients only are tested) is kept at physiological rest for some 48 hours before the inoculations are begun, the temperature being recorded three-hourly throughout this period and during the whole period of subsequent observations.

Dosage.—The sequence of doses used is as follows: First dose, 2/10 milligramme (0·0002 c.c.) albumose-free tuberculin; second dose, 1 milligramme (0·001 c.c.); third doses 5 milligrammes (0 005 c.c); fourth dose, 10 milligramme, (0·01 c.c.).

Site and time of inoculations.—The inoculations are made at 10 A.M., usually in the forearm.

Clinical record.—Note is made daily as to the presence of (*a*) local reaction at the seat of inoculation; (*b*) general reaction—namely, rise of temperature, malaise, &c.; also of any increase of symptoms, such as cough, sputum, &c.; and (*c*) focal reaction—namely, the appearance of, or increase in, physical signs or increase of sputum. Sputum, when available, is carefully tested for tubercle bacilli by the sedimentation method of Ellerman and Erlandson. The 50 cases now under consideration may be for convenience divided in two groups: (1) those in which there were physical signs suggesting the possibility of tuberculosis either in the lung, larynx, or pleura (37 in number); and (2) those in which no physical signs were present (13 in number). It may be assumed that all the 50 cases had something suspicious in their clinical history, symptoms, &c., inasmuch as they had been sent into the sanatorium as cases of pulmonary tuberculosis. The results of the diagnostic tests are summarised in the following table:—

—	Cases with suspicious physical signs.	Cases with no suspicious physical signs.	Total.	Per cent. of all cases.
Gave no reaction	8	3	11	22
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Indications given by the above Results.

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Midhurst, Sussex

THE SIGNIFICANCE OF RENAL TUBE CASTS IN THE URINARY SEDIMENT[1]

BY G LESTOCK THORNTON, M A CANTAB,
M R C P LOND, M R C S ENG,

HONORARY MEDICAL OFFICER TO THE EXMOUTH DISPENSARY AND TO THE EXMOUTH COTTAGE HOSPITAL

FOR close upon ten years I have been accustomed to consider no routine examination of the urine complete without microscopical investigation of the centrifuged deposit, and realising that useful information might subsequently be derived, the results of examination have been carefully noted in a book specially tabulated for the purpose Observations of this kind taken by the man engaged in general practice have this merit, that they are not, as a rule, limited to one observation of the patient, but may often be repeated at intervals stretched over a considerable number of years There is thus at his disposal which the consultant must of necessity lack—viz, a constant means of testing the prognostic value of any given sign or symptom

With regard to the subject of this communication much has been written, and much difference of opinion expressed as to the interpretation which should be given to the presence of renal tube casts in the urine of those in whom there is no other evidence of renal disease, whilst in the case of an established nephritis no one disputes the pathological import of their presence Here, however, the teaching of the older text-books on medicine has nowadays to be modified, for Sahli, in his fourth edition of "Diagnostic Methods,"[2] says as follows "Little can be claimed for the diagnostic importance of the different varieties of casts—granular and waxy (as opposed to hyaline and epithelial) were formerly supposed to indicate a chronic process, but the idea was wrong Any and all varieties of casts may be found in every type of nephritis, and even an amyloid kidney does not produce any distinctive type of cast" I would emphasize the words *any and all varieties of casts may be found*, for so frequently one has heard it laid down that the hyaline cast is a matter of small consequence in the deposit Napoleon Boston, who has written extensively on urinary analysis is in agreement with Leube and Purdy, who state that urine containing hyaline casts either contains albumin or has recently contained it, even though in small amounts Saundby,[3] writing at a time when the centrifuge was coming more into general use, considered that the findings of that machine were such as to cause unnecessary misgivings and he sounded a warning note as to attaching too much importance to reports on urinary analyses conducted in research laboratories where the centrifuge was in routine use The article was published at a time when I had not the data by which to support or refute the statement, but during the nine years which have followed the constant examination of the deposit brings out, at any rate from my own researches two salient facts 1 The large number of cases (74 out of 134) in which, when the presence of casts was first noted the urine failed to react to the routine tests for albumin 2 Whilst the majority of these cases were examined in a condition of temporary or permanent morbidity, it is nevertheless impossible from their subsequent behaviour to dissociate the presence of casts from the particular affection in question

In support of these statements I propose to analyse briefly the 74 cases the urine of whom when first examined was found to contain casts but failed to give the reaction for albumin Of these there are—

Still living—	(a) Health fair, no albumin	29
	(b) Health indifferent (2 give tests for albumin)	22
No information		11
Died		12

Of the 29 cases in division (*a*), of those still living and whose health we can presume to be in fair although in the majority in by no means sound health, there were of—

Acute fever (typhoid 2 glandular fever, pneumonia 2)	5 cases
Cyclical vomiting with acetonæmia	1 case
Arterio-sclerosis (7 aged 70 and upwards)	10 cases
Examined for life insurance	1 case
Renal calculus	4 cases
Floating kidney	2
Furunculosis	2 ,,
Appendicitis (chronic and subsequently operated upon)	1 case
Oxaluria	1 ,,
Specific myocarditis	1 ,,
Fatty heart	1 ,,

The acute cases call for little comment, the casts appearing at an early stage of the illness and doubtless symptomatic of cloudy swelling in the kidney In the case of cyclical vomiting (child aged 4) the casts were of the hyaline varie [illegible] of the temperature and [illegible] chloride test was positi [illegible] be considered later Four cases are for convenience classified as renal calculus, but were not all verified by X ray or operation The symptoms present, however, pointed strongly, if not to the presence of an actual stone, at least to collections of crystals extensive enough to produce colic Hyaline casts have been particularly noted in a sediment rich in crystals of calcium oxalate and have disappeared *pari passu* with the latter Casts were noted in two cases of floating kidney in this series In addition the sediment in one case showed abundant epithelial cells of renal type At the operation undertaken for replacement and fixation a large hæmatoma was found beneath the true capsule Microscopical evidence of renal irritation has been my experience in a majority of these cases, and brings me to advise a belt or operation for replacement wherever I find a genuine movable kidney

The two patients suffering from boils were both men over 40 years of age, their urine contained a few hyaline casts and cylindroids Possibly these are gouty men whose kidneys are beginning to show wear and tear from elimination of an excess of waste products The case of appendicitis refers to a man aged 46 who was in a state of general ill health owing to a chronic inflammatory condition with adhesions Operation restored him to fair health but I have since had no opportunity of testing his urine The two remaining cases consulted me for cardiac conditions the first with symptoms of arrhythmia gave a history of syphilis, the second a stout middle aged lady, suffered also from "irregular gout"

Class (*b*) Health indifferent —

Valvular cardiac disease	5 cases	
Arterio-sclerosis	5 ,,	(3 over 70 years)
Glycosuria or diabetes (true)	2 ,,	
Graves's disease	1 case	
Renal colic	1 ,,	
Sciatica	1 ,,	
Old nephritis	1 ,,	
Asthma	1 ,,	
Cardiac (non valvular)	4 cases	
Gout	1 case	

In this series two of the cases occasionally show a trace of albumin

The five cases of cardiac valvular disease were patients of middle or advanced age, and the majority showed evidence of arterial degeneration No one of them showed signs of backward pressure and possibly in some of them the cast association was primarily in the kidney Of those labelled arterio sclerosis three out of five had passed their seventieth year The remaining two were aged 62 and 69 respectively, the work of the sanatorium A certain number of negative cases are discharged after some four weeks' observation, and a somewhat larger proportion of more suspicious cases are retained for some eight to ten weeks only, instead of the usual average of 16 weeks or more The effect of this is to increase the proportion of patients in the sanatorium who have unmistakable evidence of pulmonary tuberculosis—namely, tubercle bacilli in the sputum

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[1] A paper read before the Devon and Exeter Medico-Chirurgical Society on April 11th 1913

[2] Translated by Kinnicutt and Potter

[3] Medical Annual 1904

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HONORARY MEDICAL OFFICER TO THE EXMOUTH DISPENSARY AND TO THE EXMOUTH COTTAGE HOSPITAL

FOR close upon ten years I have been accustomed to consider no routine examination of the urine complete without microscopical investigation of the centrifuged deposit, and realising that useful information might subsequently be derived, the results of examination have been carefully noted in a book specially tabulated for the purpose Observations of this kind taken by the man engaged in general practice have this merit, that they are not, as a rule, limited to one observation of the patient, but may often be repeated at intervals stretched over a considerable number of years There is thus at his disposal which the consultant must of necessity lack—viz, a constant means of testing the prognostic value of any given sign or symptom

With regard to the subject of this communication much has been written, and much difference of opinion expressed as to the interpretation which should be given to the presence of renal tube casts in the urine of those in whom there is no other evidence of renal disease, whilst in the case of an established nephritis no one disputes the pathological import of their presence Here, however, the teaching of the older text-books on medicine has nowadays to be modified, for Sahli, in his fourth edition of "Diagnostic Methods,"[2] says as follows "Little can be claimed for the diagnostic importance of the different varieties of casts—granular and waxy (as opposed to hyaline and epithelial) were formerly supposed to indicate a chronic process, but the idea was wrong Any and all varieties of casts may be found in every type of nephritis, and even an amyloid kidney does not produce any distinctive type of cast" I would emphasize the words *any and all varieties of casts may be found*, for so frequently one has heard it laid down that the hyaline cast is a matter of small consequence in the deposit Napoleon Boston, who has written extensively on urinary analysis is in agreement with Leube and Purdy, who state that urine containing hyaline casts either contains albumin or has recently contained it, even though in small amounts Saundby,[3] writing at a time when the centrifuge was coming more into general use, considered that the findings of that machine were such as to cause unnecessary misgivings and he sounded a warning note as to attaching too much importance to reports on urinary analyses conducted in research laboratories where the centrifuge was in routine use The article was published at a time when I had not the data by which to support or refute the statement, but during the nine years which have followed the constant examination of the deposit brings out, at any rate from my own researches two salient facts 1 The large number of cases (74 out of 134) in which, when the presence of casts was first noted the urine failed to react to the routine tests for albumin 2 Whilst the majority of these cases were examined in a condition of temporary or permanent morbidity, it is nevertheless impossible from their subsequent behaviour to dissociate the presence of casts from the particular affection in question

In support of these statements I propose to analyse briefly the 74 cases the urine of whom when first examined was found to contain casts but failed to give the reaction for albumin Of these there are—

Still living—	(a) Health fair, no albumin	29
	(b) Health indifferent (2 give tests for albumin)	22
No information		11
Died		12

Of the 29 cases in division (*a*), of those still living and whose health we can presume to be in fair although in the majority in by no means sound health, there were of—

Acute fever (typhoid 2 glandular fever, pneumonia 2)	5 cases
Cyclical vomiting with acetonæmia	1 case
Arterio-sclerosis (7 aged 70 and upwards)	10 cases
Examined for life insurance	1 case
Renal calculus	4 cases
Floating kidney	2
Furunculosis	2 ,,
Appendicitis (chronic and subsequently operated upon)	1 case
Oxaluria	1 ,
Specific myocarditis	1 ,,
Fatty heart	1 ,

The acute cases call for little comment, the casts appearing at an early stage of the illness and doubtless symptomatic of cloudy swelling in the kidney In the case of cyclical vomiting (child aged 4) the casts were of the hyaline varie [illegible] of the temperature and [illegible] chloride test was positi [illegible] be considered later Four cases are for convenience classified as renal calculus, but were not all verified by X ray or operation The symptoms present, however, pointed strongly, if not to the presence of an actual stone, at least to collections of crystals extensive enough to produce colic Hyaline casts have been particularly noted in a sediment rich in crystals of calcium oxalate and have disappeared *pari passu* with the latter Casts were noted in two cases of floating kidney in this series In addition the sediment in one case showed abundant epithelial cells of renal type At the operation undertaken for replacement and fixation a large hæmatoma was found beneath the true capsule Microscopical evidence of renal irritation has been my experience in a majority of these cases, and brings me to advise a belt or operation for replacement wherever I find a genuine movable kidney

The two patients suffering from boils were both men over 40 years of age, their urine contained a few hyaline casts and cylindroids Possibly these are gouty men whose kidneys are beginning to show wear and tear from elimination of an excess of waste products The case of appendicitis refers to a man aged 46 who was in a state of general ill health owing to a chronic inflammatory condition with adhesions Operation restored him to fair health but I have since had no opportunity of testing his urine The two remaining cases consulted me for cardiac conditions the first with symptoms of arrhythmia gave a history of syphilis, the second a stout middle aged lady, suffered also from "irregular gout"

Class (*b*) Health indifferent —

Valvular cardiac disease	5 cases	
Arterio-sclerosis	5 ,	(3 over 70 years)
Glycosuria or diabetes (true)	2 ,	
Graves's disease	1 case	
Renal colic	1 ,	
Sciatica	1 ,	
Old nephritis	1 ,,	
Asthma	1 ,,	
Cardiac (non valvular)	4 cases	
Gout	1 case	

In this series two of the cases occasionally show a trace of albumin

The five cases of cardiac valvular disease were patients of middle or advanced age, and the majority showed evidence of arterial degeneration No one of them showed signs of backward pressure and possibly in some of them the cast association was primarily in the kidney Of those labelled arterio sclerosis three out of five had passed their seventieth year The remaining two were aged 62 and 69 respectively, who took up bicycling at the age of 50. Some seven years ago, when aged 60, he consulted me about his urine, as diabetes was a family disease. I could detect no sugar, but found the specific gravity high and the deposit to contain [illegible] The heart sounds were normal. [illegible] but this time for a slight fainting [illegible] church; it was at the beginning of service, and he had almost run the distance of 300 yards from his house to the church. There was now a loud systolic murmur replacing the first sound at the apex, which was located in the mid-clavicular line. There was no œdema and no albumin, but the urine showed the presence of plentiful casts. His life has now been remodelled in many respects, and his condition improved in consequence.

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[1] A paper read before the Devon and Exeter Medico-Chirurgical Society on April 11th 1913

[2] Translated by Kinnicutt and Potter

[3] Medical Annual 1904

The term "de senectute" is now proscribed by the registrar-general, and the obituary list of any morning paper points at any rate to a need for correction of the Psalmist's figures for present-day needs. A man is as old as his arteries, and old age is in the majority of cases but an expression of the extreme limit of what was dignified in earlier years by the title arterio-sclerosis. I have frequent opportunity for the investigation of the urine of those of advanced years (+75), and casts, hyaline, or granular and hyaline, are as frequently noted. That they are present probably in the majority of those aged 70 and upwards is no reason why they should be regarded as non-pathological. They are, on the contrary, evidence of renal changes consequent upon backward pres- [illegible] re content with the [illegible] are forced, in the [illegible] pting the processes [illegible] so, however, with [illegible] of casts should be regarded as evidence of undue wear and tear, and as a distinct, if the only, warning—"the cloud no bigger than a man's hand"—that announces the coming storm.

Including the cases with albuminuria, 12 patients with diabetes or glycosuria appear in my notebook. Of these, no less than 11 showed casts in the urine. In respect of treatment it is extremely difficult to protect the kidney. In the composite forms it is often quite impossible to keep the output of sugar below 2 or 3 per cent, and the kidney must eventually suffer. In the alimentary form Pavy[6] tells us that the casts and albumin will often disappear when the diet is restricted. At any rate, casts should be sought for if only as an element in the prognosis.

With regard to the varieties of casts found in the urine, I think that much confusion exists owing to the fact that no strict line of demarcation exists between them if we except the epithelial and blood forms. Some would define as hyaline the cast that another would classify as finely granular, and the personal equation enters here, as it so often does in the estimation of leucocytes in blood examinations. The exact distinction between fatty and granular is hard to define, and lardaceous is a term of the past. Granting the distinctions, we are still ignorant of why some casts are granular, some hyaline, and others fatty. My own observations have brought me to think that the hyaline cast when found unaccompanied is an indicator that the kidney is still active as an organ of filtration, whereas some stagnation is necessary for the appearance noted in the granular and fatty forms. The actual composition of the granules seems also to be a subject upon which there has been no settled agreement.

In conclusion, I should like to advocate the more general use of the centrifuge. Apart from cast-finding, many a diagnosis can be clinched in five minutes in comparison with 24 hours with the conical glass, to say nothing of the urine being stale and unreliable with the latter alternative. Only a few weeks ago I found much difficulty in the diagnosis of a case [illegible] rectus, did equally [illegible] centrifuge and mic [illegible] few blood cells and hyaline casts and plentiful crystals of oxalate of calcium being found on the slide. Macroscopically the urine could have passed muster on the first examination. [illegible] microscopical investigation [illegible] be a *sine quâ non*, and the [illegible] should be found.

Once more I would like to emphasise the importance of searching the urinary sediment of middle-aged people with a raised blood pressure for the presence of casts, which, if present, may be the only warning that the machinery will give way unless the load is speedily lightened. Falstaff is generally represented to us as a man who might have been full to the brim with waste products and of high arterial tension, yet the page answers thus to his query, "What says the doctor to my water?" "He said, Sir, the water itself was a good healthy water: but, for the party that owed it, he [illegible] doctor [illegible] rifuge [illegible] been somewhat modified in respect of that sample.

Exmouth.

THE COLLOIDS OF IRON.

By LYN DIMOND, M.B. VICT.,

LATE PATHOLOGIST AND BACTERIOLOGIST, ROYAL SOUTHERN HOSPITAL, LIVERPOOL.

THAT iron in one or other of its colloid forms will ultimately play an important part in the therapy of anæmia and allied conditions, more especially by administration by the hypodermic route, prompts me to give a short account of some experiences of the therapeutic employment of certain colloid solutions or sols of this element.

Those who have used the liquor ferri dialysatus of the old Pharmacopœia can have but little doubt as to its very great value in the treatment of chlorosis and certain secondary anæmias, more especially those cases that were unable to tolerate other preparations of iron. The liquor ferri dialysatus prepared according to the Pharmacopœial directions consists of a colloid peroxide of iron, and is in many ways a most remarkable preparation. The disperse phase of this sol is electro-positive, its particles or meres passing to the kathode when a current of electricity is passed through it; [illegible] in consequence, at once takes place when [illegible] is negative are added, such as [illegible] silicic acid, and the electro-negative colloids of the blood serum. This precipitation, or rather gelatinisation, is to a certain extent reversible, and the addition of water will redissolve the coagulum, in contradistinction to the coagulum of colloid silicic acid, in which case no amount of water will bring about re-solution.

The search for an organic protective colloid which would prevent or minimise this tendency of the sol to gelatinise failed to yield this happy result, due, no doubt, to the fact that the disperse phase of the majority of the organic colloids tried possessed an opposite electric sign to that of the positively charged particles of the peroxide sol. Consequently it was hardly to be expected that the colloids which efficiently protected the metallic sols of same electric sign would do so in the case of a colloid of opposite sign. Glycerine, however, in the small amount of 1 per cent., undoubtedly preserves this preparation and prevents the formation of a bulky jelly in the presence of the electrolytes and oppositely charged colloids of the blood serum.

My first attempts to employ this colloid hypodermically were with sols made in one of the following two ways. In the first a 30 per cent. solution of ferric chloride is added to a measured amount of boiling distilled water, the sol which forms being freed from free hydrochloric acid by dialysis. In the second the hydrate of iron precipitated from ferric chloride by ammonia is redissolved in hot chloride of iron solution and the free acid removed by dialysis for ten days in running water. The sol so obtained is standardised by means of a colorimeter, so as to be equal to one-quarter the strength of the liquor ferri dialysatus of the old Pharmacopœia. This peroxide sol, rendered somewhat more stable by the addition of 1 per cent. of pure glycerine, can be employed hypodermically without untoward result of any sort.

After using it a considerable number of times in different cases of deficient blood conditions, none of the patients so treated complained that the injection was in any way accompanied by pain, at any rate, no more painful than ordinary hypodermic injections of morphine or strychnine, which for different reasons several of the patients undergoing this treatment required. The slight swelling which comes on who took up bicycling at the age of 50. Some seven years ago, when aged 60, he consulted me about his urine, as diabetes was a family disease. I could detect no sugar, but found the specific gravity high and the deposit to contain [illegible] The *heart sounds were normal.* [illegible] but this time for a slight fainting [illegible] church; it was at the beginning of service, and he had almost run the distance of 300 yards from his house to the church. There was now a loud systolic murmur replacing the first sound at the apex, which was located in the mid-clavicular line. There was no œdema and no albumin, but the urine showed the presence of plentiful casts. His life has now been remodelled in many respects, and his condition *improved in consequence.*

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NOTES ON TWO UNUSUAL CASES OF INFANTILE SCURVY.

BY ERIC PRITCHARD, M.A., M.D. OXON., M.R.C.P. LOND.,
SENIOR ASSISTANT PHYSICIAN TO THE QUEEN'S HOSPITAL FOR CHILDREN.

ON March 27th, 1912, I saw, in consultation with Dr. E. C. Gimson, of Witham, Essex, a female baby aged 9 months. The infant had made satisfactory progress until 14 days previously, when a slight feverish attack supervened, which at the time was ascribed to the cutting of a tooth. The condition, however, did not improve, and the child became obviously ill, with a running temperature ranging beween 100° and 101° F., quick breathing, and a rapid pulse. The striking feature of the case, however, was the development of a generalised œdema, which gave the infant a very puffy and bloated appearance; in the words of the mother, the child "grew larger and larger every day." This condition naturally gave rise to a suspicion of some involvement of the kidney, but the urine, which had been collected and examined before my arrival, showed no trace of albumin or other abnormality.

When I saw the infant on March 27th she was evidently in a serious condition; the respiration rate was about 90, the temperature 101°, and the whole body enormously swollen and œdematous in appearance. There was little or no tenderness of the limbs, only slight sponginess of the gums, and no indications of hæmorrhage from the kidneys, bowels, or other organ in the body, and beyond rapidity of action no abnormality could be detected in the lungs or heart. The reflexes were slightly sluggish, and the infant lay in a distinctly lethargic condition. From a review of the method of feeding I felt convinced that this was an abnormal case of scorbutus, and so subsequent events clearly proved, for although on the following day the infant had hæmorrhage from the bowel, subsidence of the œdema and recovery from the other symptoms took place almost miraculously under antiscorbutic treatment.

The interest of this case lies in the extensive development of the œdema from which no part of the body seemed exempt. When I saw her the infant had a pallid, waxy appearance, which I was told was in striking contrast to the healthy, pink colour of the skin of some days before. Another peculiarity of the œdema was that, although it looked as if it would easily pit on pressure, it was practically impossible to obtain a permanent indentation with the fingers, no matter how deeply they were inserted into the skin. I have several times noticed this same characteristic with œdema in scurvy, but I have never seen so extensive a case before, nor one in which the absence of pitting was so marked.

The second case was referred to me by Mr. R. G. Dainty, resident medical officer at the St. Marylebone General Dispensary. The history of the case was as follows. On March 30th of this year an infant, aged 10 months, fell from a mail cart on to a mat on the floor; it did not appear at the time to be seriously injured, but the same evening a swelling *gradually appeared on the side of the head on which it had* fallen. On the following day the infant was examined by Mr. Dainty, who at the time did not detect any serious symptoms beyond the swelling on the head which had now attained to considerable proportions. When, however, a few days later the swelling had increased rather than decreased in size, and the child seemed lethargic and disinclined to move, Mr. Dainty decided to ask my opinion as to whether I thought that the hæmatoma of the scalp could in any way be associated with intracranial pressure.

On examination I could find no evidence of cerebral pressure, but on inquiry I discovered that the infant had not been well for some days before the accident. The child had been lethargic, disinclined to move, had had no appetite, and seemed generally indisposed. The method of feeding again was not without its significance. I found that there was general tenderness over all the limbs, and evidently strong aversion to being moved or otherwise disturbed. The gums were spongy and of a purple colour. I therefore prescribed an antiscorbutic diet of orange-juice, raw meat-juice, egg water, and milk, and strongly advised against aspiration or other interference with the hæmatoma of the scalp, which by the time of my examination had assumed an enormous size. The general condition of the infant rapidly improved under this treatment, and at the end of 10 days it had practically returned to normal health and showed an increase in weight of over 18 oz.

Harley street, W.

NOTE OF A CASE OF

URETHRAL CALCULUS OF UNUSUALLY LARGE SIZE.

BY E. A. WALKER, M.B. EDIN., F.R.C.S. EDIN.,
CAPTAIN, I.M.S., CIVIL SURGEON, MEIKTILA, BURMA.

A *BURMESE man, aged 28, was admitted to the Meiktila* Civil Hospital on Feb 23rd, 1913, by my assistant surgeon, complaining of inability to pass urine freely; duration of illness three months.

The patient was in bad condition, very thin, covered with itch, and his clothes were soaked with decomposed urine. On examination the bladder was found to be dilated to about 5 inches above the pubes. On passing a metal catheter, this was arrested about the membranous part of the urethra, and a distinct grating sensation was felt as if the instrument had impinged on a stone. This was confirmed by a rectal examination, when a densely hard lump was felt at the anterior part of the prostate and running forward into the perineum. Its exact boundaries could not be made out, but it was realised that the calculus was of large size. The patient's history threw little light on the condition. He insisted that the difficulty in micturition had only been noticed for the last three months, and that before that he was perfectly well except for an attack of gonorrhœa. There was no history of renal colic, nor of any previous passage of calculi by the urethra

Owing to my absence in the district the operation was not performed until March 2nd The patient was anæsthetised with chloroform and placed in the lithotomy position. A median perineal incision 2 inches long was made from a point ½ inch in front of the anus. This had subsequently to be enlarged anteriorly almost to the base of the scrotum. The incision was carried down to a staff in the urethra, which was opened just behi [illegible] and the calculus immediately [illegible] properly the urethra had to [illegible] about 3 inches, dividing parts of the prostatic, membranous, and spongy portions. There was fairly free hæmorrhage from the cut corpus spongiosum at this stage. The calculus was now found to be lying free in a smooth-[illegible] formed by the dilated urethra. It was [illegible]ioniacal urine and a small [illegible] of its removal now became acute; unfortunately, we had no lithotrite available, as its use had not been anticipated, and the nearest instrument is kept at Myingyan, the next district headquarters. However, by getting one finger round the calculus and manœuvring it so that its smallest diameter was at right angles to the wound, and by the expenditure of a considerable amount of force, it was eventually delivered Its removal caused some bruising and tearing of tissue and free hæmorrhage, and the escape of a large quantity of urine Hæmorrhage was arrested by ligatures and extensive plugging

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CAPTAIN, I.M.S., CIVIL SURGEON, MEIKTILA, BURMA.

A BURMESE *man, aged 28, was admitted to the* Meiktila Civil Hospital on Feb 23rd, 1913, by my assistant surgeon, complaining of inability to pass urine freely; duration of illness three months.

The patient was in bad condition, very thin, covered with itch, and his clothes were soaked with decomposed urine. On examination the bladder was found to be dilated to about 5 inches above the pubes. On passing a metal catheter, this was arrested about the membranous part of the urethra, and a distinct grating sensation was felt as if the instrument had impinged on a stone. This was confirmed by a rectal examination, when a densely hard lump was felt at the anterior part of the prostate and running forward into the perineum. Its exact boundaries could not be made out, but it was realised that the calculus was of large size. The patient's history threw little light on the condition. He insisted that the difficulty in micturition had only been noticed for the last three months, and that before that he was perfectly well except for an attack of gonorrhœa. There was no history of renal colic, nor of any previous passage of calculi by the urethra

Owing to my absence in the district the operation was not performed until March 2nd The patient was anæsthetised with chloroform and placed in the lithotomy position. A median perineal incision 2 inches long was made from a point ½ inch in front of the anus. This had subsequently to be enlarged anteriorly almost to the base of the scrotum. The incision was carried down to a staff in the urethra, which was opened just behi[illegible] and the calculus immediately [illegible] properly the urethra had to [illegible] about 3 inches, dividing parts of the prostatic, membranous, and spongy portions. There was fairly free hæmorrhage from the cut corpus spongiosum at this stage. The calculus was now found to be lying free in a smooth-[illegible] by the dilated urethra. It was [illegible] ioniacal urine and a small [illegible] of its removal *now became* acute; unfortunately, we had no lithotrite available, as its use had not been anticipated, and the nearest instrument is kept at Myingyan, the next district headquarters. However, by getting one finger round the calculus and manœuvring it so that its smallest diameter was at right angles to the wound, and by the expenditure of a considerable amount of force, it was eventually delivered Its removal caused some bruising and tearing of tissue and free hæmorrhage, and the escape of a large quantity of urine Hæmorrhage was arrested by ligatures and extensive plugging

Medical Societies.

ROYAL SOCIETY OF MEDICINE

MEDICAL SECTION

Chylous and Chyliform Effusions

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Dr H A LEDIARD described cases of Chyliform Effusion into the Peritoneum One of these occurred in a youth, *aged 18 years, who had had tuberculous disease within the* abdomen for 12 years and ascites for six years When exploratory incision was made a large amount of pure white milk fluid was evacuated At the necropsy, made by Professor J M Beattie, of Liverpool, there was a fibrous mass of glands obliterating the receptaculum chyli and the mesenteric glands showed dilatation of their efferent channels Chyle had transuded into the peritoneal cavity Tubercle was found almost everywhere in the system—spleen, liver, kidney, membranes of the brain, lungs, mesenteric glands, and intestinal peritoneum The next case was that of a girl, aged 16 years, the subject of lymphadenoma, who had undergone two operations—one for removal of glands in the left neck and the other for removal of glands in the left axilla Sudden abdominal pain and vomiting led to puncture of the peritoneum and the finding of a chyliform fluid It was assumed that pressure of glands in the neck had blocked the thoracic duct there being *enlarged glands in the neck on* both sides Dr Lediard mentioned another case of a female with advanced mitral and liver affection with ascites, which when tapped showed a chyliform fluid

Mr MACKENZIE WALLIS spoke of the points of distinction between chylous and pseudo chylous effusions, which might be summarised briefly as follows —

Chylous Ascites	*Pseudo-chylous Ascites*
1 Tends to accumulate very rapidly and in consequence large volumes are removed at paracentesis	1 Collects more slowly the volume of the fluid varying with the exciting pathological condition
2 Generally yellowish white in colour and less perfectly emulsified	2 In colour a pure milky white solution in the form of an almost perfect emulsion
3 Degree of opalescence more or less constant at successive tappings	3 *The opacity generally in*creases or diminishes at successive tappings
4 Possesses an odour corresponding to the odour of the food ingested	4 Odourless
5 Microscopically the fluid contains fine fat globules but very few cellular elements	[illegible] and often contain fat sometimes very scanty
6 Generally shows a distinct creamy layer on standing	6 A cream may or may not *form but does not affect the* opalescence a sediment frequently settles out
7 Specific gravity generally exceeds 1012	7 Specific gravity less than 1012
8 Depression of freezing point about 0 51° C and approximating that for chyle	8 Depression of freezing point ranges from 0 56° to 0 61° and thus corresponds to the figures for blood serum
9 Total solids vary considerably but usually greater than 4 per cent	9 Total solids rarely exceed 2 per cent
10 The total protein content generally exceeds 3 grammes per cent, and of this the serum albumin is the largest fraction, globulin occurring only in traces	10 The protein constituents vary between 1 and 3 grammes per cent, and of these the serum globulin occurs in appreciable quantities
11 Mucinoid substances absent	11 Mucinoid sometimes present
12 [illegible] food	12 The fat content is generally low and may be present in traces only In its melting point and chemical composition it proves to be pathological fat
13 [illegible]	13 The most characteristic lipine is lecithin though cholo [illegible]
[illegible]	[illegible] resist putrefaction
15 The salts and the organic substances present approximate to the values found for chyle obtained from the thoracic duct	15 The salts and organic materials correspond closely to lymph and serous fluids

Mr Wallis gave a scheme of procedure necessary to establish whether a fluid obtained from a patient was chylous or pseudo chylous in nature, or a mixed form The specific gravity, total solids, and ash should be ascertained as soon as possible after withdrawal. The fat and lipines might be removed in several ways, either by ether extraction of the fluid or extraction with hot alcohol The ordinary method of extraction with ether had, however, many disadvantages, chief amongst them being the fact that the proteins present were partially precipitated, and in pseudo chylous effusions the lecithin as well By precipitating the proteins with boiling alcohol and repeated extraction of the residue with *alcohol the lipines and fat were entirely removed* The alcohol residue could then be extracted with ether *and the fat and other ether soluble substances isolated* The nature of the fat, its melting point, saponification figure, and ether figure should be observed, as by this means a distinction between normal human fat and pathological fat could be made The presence of lecithin and its condition in the fluid were also of importance, and this could be established either by precipitation methods or by dialysis The presence or absence of sugar appeared to be of little value for diagnostic purposes, since it might or might not be present in either of the two types of effusion The other organic constituents, such as urea, uric acid, bile components, occur in very small quantities, and are apparently of no special significance The presence of such inorganic salts as chlorides and phosphates might be ascertained by an analysis of the ash Finally, the depression of the freezing point should be determined as this gives an indication of the quantity and distribution of the inorganic salts present

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The meeting was declared to be the annual meeting, and it was decided unanimously that as the section was less than a year old no change should be made in the list of officers and council upon the present occasion

The PRESIDENT *announced* that at least three lectures would be given during the ensuing year upon subjects connected with the history of medicine The lectures would be public, and the names of the lecturers, as well as of the subjects chosen, would shortly be made known He further stated that the section was about to issue a fasciculus containing the various known portraits of William Harvey The fasciculus would be sold to those members of the section who wished to possess it at a price calculated to cover the expense of production *It would probably contain* 16 or 17 portraits

Dr D J A CHOWRY MUTHU (Wells) read a paper on the Ancient *System of Hindu Medicine The Hindu* civilisation was he said the most ancient in the world The astronomical allusions in the hymns of the Rig Veda (the oldest literature in the world) went back from 6000 to 4000 B C The records found by Megasthenes at Polybhotra, the residence of Chandragupta (312 B C), furnished the names and the duration of reign of 153 kings from Dionysius (an Indian king) to Chandragupta, together *amounting to* 6451 years India sent out colonies [illegible] and civilisation to ancient Egypt [illegible] later to Mexico Peru, Java and the Archipelago She perfected [illegible] (Sanscrit) which became the mother of all European languages The art of writing had been in use in India since the Vedic times Count Bjornstjerna had stated that the Hindus *possessed* 'written books of religion' before 2800 B C, or 800 years before Abraham The Hindus cultivated every branch of science and philosophy They invented geometry, trigonometry, algebra, the numerical figures (1 to 9) of arithmetic, the decimal system and the game of chess now used all over the world India was the birthplace of fables of animals and tales which are now the nursery *stories of England* America and the rest of the *world* The "Thousand and One Nights" was of Hindu *origin from Sanscrit* (Brihat Katha) so also was the book of "Sindebad" India's

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buried at Barton-on-the-Heath, April 27th, 1727. Their family consisted of four daughters, of whom the first were twins, baptised at Barton in 1688, and died young. A third daughter, Elizabeth, married John Opie and died without issue. The marriage settlement of this daughter is now in Mr. Colyer-Ferguson's possession, and is interesting from the fact that it bears the signature of Dr. Thomas Dover. The fourth daughter, Sibilla, married John Hunt and left many descendants, of whom Mr. Colyer-Ferguson claims to be one. History and tradition have played strange pranks with Dover's biography, and much confusion has existed between Dr. Thomas Dover and his grandfather Robert Dover. Thomas Dover has been credited by several of the county historians of Gloucestershire with being the founder of the [illegible] by
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[illegible] in the Star Tavern [illegible]ting is wanting, but i[illegible] certainly Selkirk conceived a grievance against Defoe for stealing his story and swelling it into the great romance, "Robinson Crusoe" Mr. Colyer-Ferguson has inquired industriously into the family connexions of Dr. Dover and has brought to ligh[illegible] soon after leaving [illegible] unsolved. Her Ch[illegible] buried at Barton-on-the-Heath, April 27th, 1727. Their family consisted of four daughters, of whom the first were twins, baptised at Barton in 1688, and died young. A third daughter, Elizabeth, married John Opie and died without issue. The marriage settlement of this daughter is now in Mr. Colyer-Ferguson's possession, and is interesting from the fact that it bears the signature of Dr. Thomas Dover. The fourth daughter, Sibilla, married John Hunt and left many descendants, of whom Mr. Colyer-Ferguson claims to be one. History and tradition have played strange pranks with Dover's biography, and much confusion has existed between Dr. Thomas Dover and his grandfather Robert Dover. Thomas Dover has been credited by several of the county historians of Gloucestershire with being the founder of the Cotswold games, whil[illegible] by [illegible] the same authorities [illegible] er's tomb at Stanway in [illegible] as follows. Robert Dov[illegible] was [illegible] buried at Barton on [illegible] to this effect in the Barton register, but I can find no tablet to were thought to be due to appendicitis, and the patient was sent to infirmary for operation An easily palpable tumour was found, hard and mobile There was no visible peristalsis, diarrhœa, or wasting A provisional diagnosis of carcinoma was given An *operation on April 30th last dis*played a tumour of the cæcum with hard nodules disseminated in the mesocolon and in wall of ileum, the glands were hard and enlarged This was apparently a typical dissemination of carcinoma, and it was *thought not to be removable, so* short circuiting was performed by lateral anastomosis *of the* ileum to the transverse colon A nodule *was removed, and* on microscopical examination proved to be typical tubercle 3 Plated Humerus for Ununited Fracture of *three months'* duration

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The book is very fully illustrated, and most of the illustrations are clear and intelligible, but of a few it may be said that they give absolutely no information: as examples of the useless illustrations we may mention Fig. 45, "catheterisation of the female"; Fig. 150, "colostomy"; and Fig. 178, "second step in packing the vagina." We would not have it thought that we undervalue the many excellent illustrations which are to be found in this volume, but we feel that a protest should be made against the practice very prevalent at the present time of overloading books with reproductions of perfectly useless photographs. Photographs are easily obtained, and it is too often assumed that a photograph must be accurate, so that there is a tendency to employ photographs in cases in which, if any illustration is needed, a clear diagram would be much more instructive.

The Bacterial Diseases of Respiration and Vaccines in their Treatment. By R. W. ALLEN, M D., B.Sc. Lond., late editor *Journal of Vaccine Therapy*, &c. London: H. K. Lewis. 1913. Pp. 236. Price 6*s*. net.

So short a period has elapsed since we had occasion to notice the new edition of Dr. Allen's work on Vaccine Treatment, in which the question of respiratory troubles was pretty adequately dealt with, that the appearance of this fresh volume rather takes away one's breath The enthusiasm of the author, who believes that "in no other disorders are such uniformly successful results achieved" as in this group of troubles, is doubtless the cause of this further addition to the literature of the subject. The present book deals in successive chapters with the bacteriology of the respiratory tract in health, with methods of investigation and technique, both of staining and culture, with the bacterial findings in various respiratory affections, and with the general principles of vaccine treatment. The last six chapters then take up in turn the particular applications of the method to diseases of the upper respiratory passages, to bronchitis and asthma, to pneumonia and its complications, to a varied group of disorders, including whooping-cough, ozæna, pyorrhœa, and so forth, to mixed infections in pulmonary tuberculosis, and finally to specific remedies for tuberculosis itself.

The book contains much that is of interest. The attention which Dr. Allen has devoted to a study of the bacteriology of "common colds" is well known and deserves all praise. He now attempts to differentiate by their clinical symptoms the varieties of colds caused by the different micro-organisms. These distinctions will need confirmation by others before they can be unreservedly accepted, and we feel that much difficulty will arise in drawing distinctions in this field, since one cold differs from another by almost innumerable degrees of unpleasantness. Nevertheless, it is well to make at least an attempt at clinical accuracy, which may at any rate serve as a basis for further investigation. With regard to pneumonia Dr. Allen holds that in some individuals the pneumococcus is constantly lying in wait in the air-passages and gets its chance owing to some lowering of resistance. It is disappointing that an instance which he quotes, in which these germs persisted, showed that it was practically impossible to dislodge them by vaccines. In the vexed field of asthma the author confesses that his "observations upon the vaccine treatment of asthma have by no means reached finality"—a commendable instance of modesty; and throughout the book he recognises that ordinary methods of treatment are not to be omitted, even by the confirmed vaccinist. On the whole, we are inclined to think that his advice with regard to this procedure in the case of acute disease of the antrum might be applied, as yet at any rate, to many conditions: "It is therefore with considerable hesitation that an expensive course of vaccine treatment should be suggested ...... until opportunity for spontaneous cure has been afforded and aided by ...... other usual remedial measures." The book shows evidence of haste in preparation, as in such phrases as "much likely to prove," and in references to "a subsequent number," "the scope of this paper," and so forth. Names such as "Frankel," "Friedlander," "Munchener," should be printed with a modified vowel—an error which we are surprised to find in the writings of one who quotes German literature with reasonable frequency.

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THE first volume of this work was reviewed in THE LANCET of July 1st, 1911 (p. 19). We welcome the second volume in its English garb, as it presents us with some aspects of the questions with which it deals which are not so familiar to English readers We refer more especially to the rather full account of the work done by Italian physiologists. The historical aspect and perspective of the several questions is always kept well in view, dates of important observations being freely inserted. To each chapter is appended a bibliography, which should be adequate for most readers.

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Die Chirurgischen Untersuchungsmethoden, Lehrbuch für Studierende und Aerzte. Von Professor Dr HUBERT GEBELE. Mit 154 Abbildungen. München: J. F. Lehmann. 1912. Pp. 192. Price, paper, 8 marks; bound, 9 marks.

THIS book contains an account of the various methods which can be employed in the diagnosis of surgical cases. It describes how to employ inspection, palpation, percussion, and auscultation; it explains the use of the stomach tube; it gives directions for lumbar puncture and puncture of the brain, and points out what may be learned from the employment of such methods. Then come descriptions of the modes of examining the various secretions, excretions and exudations. Serum diagnosis has a chapter to itself, and the final chapters deal with the methods of endoscopy and with radiography. It may be thought that it would not be possible to put all this information into so small a compass, but the author has succeeded very well in the task which he had set himself, for he has supplied those particulars and details which are so often wanting in the usual text books on surgery. The numerous illustrations should assist the reader.

MISCELLANEOUS VOLUMES

OF the making of books for mothers on the puerperal condition and the care of children there seems to be no end, but the ideal book or books on those subjects have not yet appeared. Certainly they are not to be found in either *The Young Mother* or *Babyhood*, by J. BERNARD DAWSON, M.D. Lond., F.R.C.S. (London: Ewart Seymour, and Co., Limited. 1912. Price 2*s.* 6*d.* net each). Both books, it is true, contain a good deal of common sense information, but both also contain much detailed and strictly professional information with which it is both unnecessary and undesirable that the lay person should be indoctrinated. We objected, for instance, when reviewing a similar work some time back, to a discussion in such a place of the merits and demerits of chloroform anæsthesia in confinements, and we make the same objection concerning "The Young Mother." The author should dissociate himself from responsibility for the second appendix, which is, in effect, a running commentary of approval of the various foods, toilet preparations, proprietary remedies, and so forth that are advertised on the opposite pages, and which is apparently identical in both books.——A useful manual for maternity nurses is *Babies*, by MARGARET FRENCH, Sister at the General Lying-in Hospital, Lambeth (London: Macmillan and Co. 1913. Pp. 80. Price 1*s.* net). It is full of practical information, based on scientific sources, and digested for assimilation by those for whom it is intended. The information given is judiciously selected and expressed without any professional parade. We would suggest, however, that owing to the grave importance of preventive measures in regard to ophthalmia neonatorum and the widespread nature of the infection, some reference should be made to it at the outset when, as on pp. 6 and 14, the care of the eyes is referred to. Every new-born child without exception should be watched for it, no matter what the status of its parents may be. The book can be heartily commended.——Another "baby book" is *Our Baby*, by Mrs. J. LANGTON HEWER (Bristol: John Wright and Sons, Limited. 1913. Pp. 192. Boards 1*s.* 6*d.* net, cloth 2*s.* 6*d.* net), which, as it has now reached its fourteenth edition, completing the issue of one hundred thousand copies, must be held to have established its popularity. It contains much wholesome advice on many points in the rearing of children, besides the mere instruction as to washing, dressing, exercise, sleep, simple ailments, &c. We can endorse the opinion uttered by the author in the first edition (1891) that "it would certainly raise the standard of health in the next generation if every girl were obliged, before leaving school, to pass an examination on the very important subject of 'How to bring up a Baby.'" The present edition has been revised and much new matter added, but the revision is hardly perfect, for on p. 2 a reference is given to p. 166, but on turning to that page we find nothing relating to the subject (boracic lotion) for which the reference was made. The additions concern infant feeding, the nursing of sick children, moral training, and tuberculosis; also a chapter on the Special Care of Children in Tropical Countries.

For the purposes of mere review or enumeration, so as to avoid overlooking one or more of a series of points in a group, memoriæ technicæ are very useful and nothing can be urged against their proper use. Dr. N. CORBET FLETCHER'S *Compendium of Aids to First Aid* (London: John Bale, Sons, and Danielsson, Limited. 1913. Pp. 45. Price 6*d.* net) consists of a very ingenious series of mnemonic "tips" for those who have thoroughly mastered the principles of first aid, which will be as useful in checking off the items of their knowledge as an instrument list is at operation.——The *Indian Manual of First Aid*, by Major R. J. BLACKHAM, R.A.M.C. (Calcutta: Thacker, Spink and Co. 1913. Pp. 174. Price R.1) has been prepared especially to meet the requirements of the Indian branch of the St. John Ambulance Association. It follows the syllabus of instruction of the association. We should like to see a reference to the immediate application of a hot saturated solution of boric acid as an application to burns.——It is unnecessary to do more than repeat the commendation already expressed in these columns of Lieutenant-Colonel P. C. GABBETT'S *Manual for Women's Voluntary Aid Detachments* (Bristol: John Wright and Sons, Limited. Pp. 115. Price 1*s.* net), the second revised and enlarged edition of which is before us. Additions have been made especially in regard to the treatment of wounds and combined work, and chapters have been added on Camp Kit for Nurses and the Red Cross Society's arrangements for training.——Only a little over a year ago we noticed the seventh edition of *First Aid to the Injured and Sick, an Advanced Ambulance Handbook*, by Major F. J. WARWICK, R.A.M.C. (T.) and Major A. C. TUNSTALL, R.A.M.C. (T.), and now the eighth edition (Bristol: John Wright and Sons, Limited. 1913. Pp. 246. Price, boards, 1*s.* net; leather, 2*s.* 6*d.* net) is before us. It is an advanced book, and goes quite fully into the subject, so that it will be of service to ambulance lecturers, as well as to pupils who have attained a fair degree of proficiency. Part I. gives an account of the structure and functions of the body in a more detailed degree than is customary in first aid manuals. Part II. deals with bandaging and the usual emergencies and includes the new stretcher drill from the Royal Army Medical Corps Training, 1911. A book that has reached its eightieth thousand calls for no further comment.——Four little books, the first of the new S.P. Pocket Guide Series, published by the Scientific Press, Limited, London, price 1*s.* net each, may fitly be mentioned here. *Bandaging Made Easy*, by Miss M. R. HOSKING, Sister-in-charge, Tredegar House, Bow, E., is an admirably clear and concise little handbook, well illustrated. The with sanatorium, sickness, and maternity benefits and the finances of an Insurance Committee The special provisions applying to Scotland and Ireland are also given Numerous specimen forms for use in connexion with medical and sanatorium benefit, and so forth, are given in appendices, and also a list of addresses of clerks to Insurance Committees in the British Isles The selection of the material dealt with shows great discrimination, and we congratulate the author upon having produced a convenient and useful reference book

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Die Chirurgischen Untersuchungsmethoden, Lehrbuch fur Studierende und Aerzte Von Professor Dr HUBERT GEBELE Mit 154 Abbildungen Munchen J F Lehmann 1912 Pp 192 Price, paper, 8 marks, bound, 9 marks

THIS book contains an account of the various methods which can be employed in the diagnosis of surgical cases It describes how to employ inspection, palpation, percussion, and auscultation, it explains the use of the stomach tube, it gives directions for lumbar puncture and puncture of the brain, and points out what may be learned from the employment of such methods Then come descriptions of the modes of examining the various secretions, excretions and exudations Serum diagnosis has a chapter to itself, and the final chapters deal with the methods of endoscopy and with radiography It may be thought that it would not be possible to put all this information into so small a compass but the author has succeeded very well in the task which he had set himself, for he has supplied those particulars and details which are so often wanting in the usual text books on surgery The numerous illustrations should assist the reader

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HOSKING, Sister in charge, Tredegar House Bow, E, is an admirably clear and concise little handbook, well illustrated The this kind granted in the five years 1907–1911 They found that only nine of the licensing authorities had accepted certificates from candidates passing examinations by bodies who had not the privilege of giving registrable diplomas Fourteen of the licensing authorities said that they had given no such exemptions during that time Of the nine authorities who did grant exemptions, the Universities of Manchester and Bristol only gave exemption in one case each The former exempted from the first, second, and third examinations because the candidate was an M D of Geneva The latter granted exemption from the first professional examination as the candidate was an Associate of the Royal College of Science, London and M A, Ph D of Heidelberg The committee found that 124 exemptions had been granted by the Conjoint Board of England It was quite obvious that the high standing of its diplomas would naturally attract colonial and foreign surgeons who were desirous of obtaining a qualification to admit them to the Medical Register The committee had before them the percentage of the exemptions to the number qualified, but the majority of the bodies gave a very small percentage of exemptions to the numbers of persons who qualified Two licensing authorities seemed to grant these exemptions in a much larger proportion—the Apothecaries' Society of London and the Apothecaries' Hall of Dublin The percentage of the Apothecaries' Society of London was 8 9 per cent, but that of the Apothecaries' Hall of Dublin was 59 1 per cent The latter gave exemptions to 22 candidates and the number qualified was 37 The committee were asked whether the granting of exemptions of this kind should be continued It appeared to them that this was a question largely in the discretion of the licensing authorities themselves All the Council could do would be, if it became evident that exemptions were being granted on account of examinations of insufficient standard, to deal with them under their powers under the Medical Act Many of these exemptions were granted for examinations where it would be impossible to suggest that the standard was not adequate Last year a motion was adopted by the Council on the granting of exemptions on account of examinations passed by candidates in the Indian Subordinate Medical Department It was possible that some of the examinations which had been accepted by some of the bodies for exemption might be dealt with in the same way It was obvious that no general rule could be suggested In looking through the list the committee found that 117 candidates received exemptions on account of examinations which they had passed in the Dominion of Canada However, the Medical Council for the whole Dominion of Canada was coming into operation and the committee hoped that this was the beginning of what might perhaps be a very intimate mutual recognition of medical qualifications If this should prove to be the case it would do away with half the cases in the list of exemptions As to the conditions under which the various licensing bodies received such certificates of exemptions the Conjoint Board for England published a very complete list which had been compiled with great care, of the foreign and colonial examinations which they were willing to accept The Scottish and the Irish Conjoint Boards had similar lists The Apothecaries' Society of London stated in their regulations that they would grant exemption to candidates from all examinations except the final group on producing evidence that they had passed similar examinations to those conducted by boards recognised by the Society

Sir JOHN MOORE seconded the motion

Dr ADYE-CURRAN complained that Sir Charles Ball had made the Apothecaries Hall of Dublin a stalking horse The Hall would never accept any examination except that of a body which was recognised as satisfactory It appeared from the figures quoted by Sir Charles Ball that the Hall was very much in excess of other bodies granting exemptions That was not altogether its fault The Council had deprived it of its preliminary examination, and had thus endeavoured to prevent students entering on its curriculum Now the authorities of the Hall were twitted with the fact that most of their candidates had not put in their whole course at the Hall That was perfectly true, but the Council was to blame because it had deprived them of the means of obtaining students It seemed to him that there was a system of organised persecution directed against the Apothecaries' Hall

The motion was then agreed to.

The Apothecaries' Hall, Dublin

A report from the Examination Committee was also received regard to the Apothecaries Hall of Dublin

Sir CHARLES BALL said, in explaining the terms of the report, that the committee were of opinion that the reports of the assistant examiners on the methods and standards actually adopted at each qualifying examination should be discontinued They thought that the General Medical Council should not ask the assistant examiners to report to them on any portion of an examination except that which they conducted themselves [illegible] ecaries' Hall [illegible] committee [illegible] rom 1898 to 1907 one lived in London and the other in Scotland The Apothecaries' Hall complained, not without reason, of the heavy extra expenditure they were put to for the travelling and hotel expenses of these gentlemen In 1907 assistant examiners were appointed resident in Dublin, but instead of being nominated as formerly by a committee of the Council, the gentlemen nominated by the Apothecaries' Hall were appointed This arrangement had been continued ever since as vacancies had arisen the Apothecaries Hall having on each occasion nominated a well known hospital surgeon resident in Dublin, who had been accepted by the Council without question The Examination Committee considered reports of examinations made for the Council by a perfectly independent inspector preferable to those made by the nominees of the licensing body in question, no matter how distinguished those nominees might be The cost to the Council of these reports was considerable In 1911 it reached £148 4*s* 6*d* and in 1910 £120 16*s* 6*d* These sums included fees paid to the assistant examiners of £126 in 1911 and £105 in 1910 The Medical Act, 1886 Section 3, paragraph 3, stipulated that inspectors should not interfere with the conduct of any examination The assistant examiners could not, therefore, act as inspectors and there did not appear to be any warrant in the Act for the payment by the Council of fees to the assistant examiners The Examination Committee although they recommended the discontinuance of the reports on 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Consequently it failed to dry quickly, and was still gelatinous and could be rubbed off with a finger long after it had been applied. This state of affairs was also due to the damp, ill-ventilated condition of the building, in which moulds were found in large quantities. It is, therefore, not strange that sufficient arsenical gases were set free to cause alarming symptoms. These, as is natural, were most severe in the cold seasons of the year; in the summer, when the windows were open, there were relatively few complaints. Arsenical poisoning frequently occurs in Sweden; indeed, 8 per cent. of the patients in the outbreak described had previously suffered. This is largely due to erratic legislation, stringent regulations having defeated their own ends. In view of the recent events just recorded alterations for the better may be anticipated.

THE DIETING OF PATIENTS IMMEDIATELY BEFORE GIVING ANÆSTHETICS FOR SURGICAL OPERATIONS

THERE is nothing about which opinions have undergone more change during the past decade than about the treatment of patients antecedent to their taking a general anæsthetic. In a review of a book upon surgical after-treatment, which appears in another column (p. 1594), this important subject is briefly alluded to, but it is worth more notice than is there given, because the fluctuations of view have led to much misapprehension. Many of the recent books dealing with surgical operations are often at fault and are, in the main, quite misleading. No doubt such manuals are restricted through the exigencies of space from entering fully into a subject which is extremely wide and demands a liberal space if it is to be treated at all adequately. The well-meant attempt to condense rules and formulate a general programme of treatment results in a hazy and even inaccurate series of statements which leave in the mind of the student or inexperienced practitioner a condition of confusion worse confounded. Dealing with a very narrow aspect of the matter, the question of giving or withholding all solid and liquid food for some hours before the anæsthetisation, we find the most conflicting views advanced. The dangers of a very prolonged fast have become recognised, and some surgeons have suggested the plan of persistence in the ordinary routine of meals, but allowing an interval to elapse between the last meal and the operation sufficiently long to permit of normal digestion. This plan, however, is open to an obvious objection. An individual about to undergo an operation is usually in far from a normal state, and his digestion and metabolism are either delayed or brought to a standstill. The more commonly accepted method is to preserve the customary meal times, but to diet the patient for some days, so that as light a task as possible is imposed upon his digestion. When the question of the ingestion of liquids is considered, we find some authorities urge that even water taken immediately before the anæsthetic will delay narcosis and provoke vomiting, while others support the view that after-sickness is often lessened by pre-anæsthetic libation of water. Probably the latter view is correct, provided that a sufficiently long interval of time elapses between the drinking and the anæsthetic, especially if the fluid taken is mildly alkaline and is at blood temperature. Certainly in the case of laparotomies a system of giving hot water made mildly alkaline and taken at four-hour intervals for a week before the operation subserves two useful purposes. It lessens post-anæsthetic vomiting and obviates the distressing thirst which is often an intolerable sequela in such cases. These are some of the procedures in common vogue but no wise practitioner will pin his faith to a routine following of any one of them. The peculiarities of each patient, and the exigencies of each operation have to be carefully weighed in deciding the method to be pursued for any given individual, and the accuracy of the judgment arrived at must depend in no small measure upon the experience and width of outlook enjoyed by the practitioner to whom is committed the ordering of the case.

SANATORIUM BENEFITS IN BIRMINGHAM

A COMMUNICATION from our correspondent in Birmingham last week expressed, under this heading, the opinion that there was a good deal of dissatisfaction in the medical profession with the way in which the treatment of the consumptive patients was being carried out. We are informed that these words have given a wrong impression, and also that no patient is recommended for or receives tuberculin unless he has been previously examined by the tuberculosis officer or one of the full-time assistants. The tuberculosis officer is himself specially trained and experienced in this branch of medicine, and high opinions have been expressed of his work at Birmingham under the National Insurance Act.

THE PHARMACEUTICAL SOCIETY

ON the occasion of the annual meeting of the Pharmaceutical Society, which was held on May 21st, the President, Mr. C. B. Allen, was able to give an account of a year's good work, and to show that after an existence of 72 years the society is in a stronger position than ever. The membership, which consists of 7522 registered pharmacists, is larger by 2000 than it was ten years ago, the funds are in a satisfactory condition, and "with regard to political influence," said the President, in moving the adoption of the annual report, "the council has been able, with the support of the chemists of the country as a whole, to make pharmacy felt in some quarters, feared in others, and respected on every hand." The period covered by the annual report, which was unanimously adopted by the meeting, was an anxious one, and although certain dangers which threatened pharmacists have not entirely passed away, the tension has been greatly relieved and the prospects are much brighter than they were a year ago. One cause of anxiety was the attempt made by an organised body of unqualified shopkeepers to obtain some of the privileges of pharmacists without the necessity of passing the pharmaceutical examinations. Stimulated by these non-registered persons, the Insurance Commissioners, a short time ago, appointed a committee of inquiry for the purpose of investigating the conditions under which medicines had been supplied prior to the passing of the Insurance Act, the object of those who pressed for the appointment of the committee being to secure the right to go on the chemists' panels. The report of this committee has not yet been made public, and its proceedings were private, but it may perhaps be inferred from the President's anticipation of the nature of the report that it is not unfavourable to pharmacists. He said that when the report was placed before the House of Commons registered persons would appreciate the dangers they had escaped and the means that ensured their safety. It seems that the society's witnesses before the committee had a most difficult task "to prove that neither logic nor reason could justify a policy that would condemn insured persons to have their medicines dispensed by unqualified persons who are under a legal disability created nearly 50 years ago." Another matter arising out of the Insurance Act to which the President drew attention was the of economy were also apparently responsible for the combination of an equal quantity of turpentine with the oil used in the paint Consequently it failed to dry quickly, and was still gelatinous and could be rubbed off with a finger long after it had been applied This state of affairs was also due to the damp, ill-ventilated condition of the building, in which moulds were found in large quantities It is, therefore, not strange that sufficient arsenical gases were set free to cause alarming symptoms These, as is natural, were most severe in the cold seasons of the year, in the summer, when the windows were open, there were relatively few complaints Arsenical poisoning frequently occurs in Sweden, indeed, 8 per cent of the patients in the outbreak described had previously suffered This is largely due to erratic legislation, stringent regulations having defeated their own ends In view of the recent events just recorded alterations for the better may be anticipated

THE DIETING OF PATIENTS IMMEDIATELY BEFORE GIVING ANÆSTHETICS FOR SURGICAL OPERATIONS

THERE is nothing about which opinions have undergone more change during the past decade than about the treatment of patients antecedent to their taking a general anæsthetic In a review of a book upon surgical after treatment, which appears in another column (p 1594), this important subject is briefly alluded to, but it is worth more notice than is there given, because the fluctuations of view have led to much misapprehension Many of the recent books dealing with surgical operations are often at fault and are, in the main, quite misleading No doubt such manuals are restricted through the exigencies of space from entering fully into a subject which is extremely wide and demands a liberal space if it is to be treated at all adequately The well meant attempt to condense rules and formulate a general programme of treatment results in a hazy and even inaccurate series of statements which leave in the mind of the student or inexperienced practitioner a condition of confusion worse confounded Dealing with a very narrow aspect of the matter, the question of giving or withholding all solid and liquid food for some hours before the anæsthetisation, we find the most conflicting views advanced The dangers of a very prolonged fast have become recognised, and some surgeons have suggested the plan of persistence in the ordinary routine of meals, but allowing an interval to elapse between the last meal and the operation sufficiently long to permit of normal digestion This plan, however, is open to an obvious objection An individual about to undergo an operation is usually in far from a normal state, and his digestion and metabolism are either delayed or brought to a standstill The more commonly accepted method is to preserve the customary meal times, but to diet the patient for some days, so that as light a task as possible is imposed upon his digestion When the question of the ingestion of liquids is considered, we find some authorities urge that even water taken immediately before the anæsthetic will delay narcosis and provoke vomiting, while others support the view that after sickness is often lessened by pre anæsthetic libation of water Probably the latter view is correct, provided that a sufficiently long interval of time elapses between the drinking and the anæsthetic, especially if the fluid taken is mildly alkaline and is at blood temperature Certainly in the case of laparotomies a system of giving hot water made mildly alkaline and taken at four hour intervals for a week before the operation subserves two useful purposes It lessens post-anæsthetic vomiting and obviates the distressing thirst which is often an intolerable sequela in such cases These are some of the procedures in common vogue but no wise practitioner will pin his faith to a routine following of any one of them The peculiarities of each patient, and the exigencies of each operation have to be carefully weighed in deciding the method to be pursued for any given individual, and the accuracy of the judgment arrived at must depend in no small measure upon the experience and width of outlook enjoyed by the practitioner to whom is committed the ordering of the case

SANATORIUM BENEFITS IN BIRMINGHAM

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THE GENERAL MEDICAL COUNCIL AND THE PROPOSED ALTERATION IN THE STANDARD OF PRELIMINARY EXAMINATIONS

BY SIR HENRY MORRIS, BART, M A, M B LOND, F R C S ENG

WHEN in November, 1910, the General Medical Council, with the object of raising the standard of preliminary education, resolved on making certain changes which were to date from Jan 1st, 1914, it was felt by some competent critics that the time for doing so was inopportune because of the falling off in the number of students entering the profession

It may be thought however, from the statement recently made as to an increase of 165 students registered in 1912 over the number registered in 1911, and as to the total number registered in the year 1912 coinciding with the average yearly *number of the preceding five years, that this* objection no longer exists

But the increase is apparent, not real It is due to the fact that a large number of students, owing to recently altered regulations, were enabled to register in 1912 instead of a year or so later, and when this number is discounted the real increase for the year 1912 is only 80, and the total number of entrants is considerably below the average of the previous five years, although it exceeds the total for the year 1911

What, however, *is of much greater importance than any* question as to the "how" and the "when" of raising the standard of existing examinations is the urgent need of the several universities and examining bodies of the United Kingdom uniting to foster the establishment of a recognised school leaving certificate, of a certificate which, without indicating a uniformity in kind of the education received and without pretending to imply an exact identity of standard, will yet be a sufficient proof of a sound general education to admit the holders of it to any university or to the *curriculum of study for any professional or scientific* calling

The entrance to a university or to a profession ought not to be barred by (in the words of Huxley) 'any absolute and defined preliminary examination, the passing of which shall be an essential condition of admission to the university' The instruction of a university or that required for any professional career, ought to be accessible to everyone who is fit to take advantage of it, although he may not have been prepared at school to pass a particular "absolute and defined preliminary examination'

It is the want of a universally recognised and accepted school leaving certificate which handicaps students and is so embarrassing to school masters It is this want which has been, and is, the chief obstacle in the way of many an excellent and accomplished student taking a university degree which otherwise he was fully competent to do, or changing from a profession for which he finds himself unfitted, or to which he has taken a dislike into one for which he has developed a liking and realises an aptitude It is the difference between the educational course they have pursued and the character of the particular entrance examination which they too late discover they have to pass, and not because their education and *grounding* are deficient or inferior, that under present circumstances keeps the door shut against many students who are even more capable and better instructed than some of those who have been allowed to pass through the portal

The General Medical Council could not exert its influence in a better cause than in reiterating its desire that the *Board of Education* and the *Oxford* and Cambridge School Examination Board should cooperate in getting established such a certificate, in soliciting the universities, the State, and the local authorities to take steps to standardise the different inspections by making the inspection a joint matter between them, in trying to induce the head masters of all the secondary schools in the country to have their schools officially inspected, and in urging the various universities and licensing bodies to accept such a school leaving certifi- [illegible] g else [illegible] of such a certificate the [illegible] the whole profession, would go a long way towards bringing about compulsory inspection of secondary schools if they could induce the universities and examining bodies of England to admit as candidates for their examinations (except, perhaps, in certain special cases) those only who have been educated at inspected schools

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The revision of the existing Recommendations of the Council whereby such information is at present conveyed alike to the examining bodies at home and in India and the Colonies has occupied much of the attention of the Education Committee since November, 1910 These Recommendations, which, on the joint advice of three educational experts, were adopted by the Council in 1900 and have ever since been in force, were with "three important changes" re affirmed in a report of the Education Committee in 1911 Two of these suggested "important changes" are (1) the increase of the percentage of marks required for the pass, and (2) the abolition of compensation between subjects This report of the Education Committee was merely entered on the minutes of the Council

Six months later—namely, in June, 1912—precisely the same proposals were again entered on the minutes of the Council On neither of these occasions was the approval of the *Council moved* On *both occasions, on the contrary*, a motion was proposed though not carried to refer the report back to the committee

In the reports of 1911 and 1912 the Sections I and II, which refer to "the character of the examination" and "the distribution of marks," are word for word the same as the Recommendations of the year 1900, whereas Section IV as to "the Minimum Percentage of Pass" is entirely different, the pass marks [illegible] recommended [illegible] *Recommendati* [illegible] compensation when the four subjects are taken at one examination "if the candidate reach the necessary percentage in the aggregate marks of his papers as a whole provided that the required pass mark must be reached in the English paper', whereas the reports of 1911 and 1912 suggest that 'no pass should be granted in any subject when the percentage gained in the subject is less than that which is stated in Section IV of those reports"

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100 feet to 1° F Readings with the wet bulb thermometer showed that at depths exceeding 2000 feet the atmosphere becomes drier, and the wet bulb gradient in consequence is much greater He said that the factors which influenced the temperature of mine air were increase of rock temperature due to depth, the rate of oxidation, the increase due to compression of air in the shafts, and the cooling effect due to taking up moisture He was convinced that the capacity of a man for work was seriously impaired when the wet-bulb temperature exceeds 82° F, although this figure may be exceeded if a strong breeze is made to blow over the exposed skin surface of the miner, but 85° F (wet bulb) must be taken as the limit To obtain proper working conditions Professor Cadman said that large volumes of air must be circulated through the main arteries of the mine to be delivered in the workings in a dry condition and at a temperature below 82° F (wet bulb) No artificial watering for the purpose of allaying dust should be used, and the air must be carried in roadways which permit of the minimum amount of loss of oxygen due to oxidation The length of coal face ventilated by a single air current must be so restricted as to prevent an abnormal increase in temperature due to oxidation Brisk currents of air must also be projected into the places where men are employed By adopting these precautions there should be no difficulty in successfully working to a depth of 5000 feet

Occupational Fatigue

SIR THOMAS OLIVER in introducing the subject, said that "so tired" was the cry of thousands of men, women, and children at the end of a working day, and how to meet the complaint and remove its cause was one of the problems of the present age He said that it would seem that the stress of modern times was becoming too great and that the strain of industrial methods through improved machinery was becoming more than human strength could bear Fatigue is due to altered industrial methods changes in the food of the people, overcrowding, and other conditions incidental to town life The greater prevalence of functional disease lends support to the supposition that men and women are more readily overcome by fatigue than were our forebears In factories, where the working day is unduly protracted not only are accidents more numerous but the actual production of the last hour or two is much below the average Night work for women and children is a frequent cause of fatigue and the employment of young persons in arduous processes requiring the lifting and carrying of heavy weights beyond their strength and years is not only a cause of fatigue but of arrested physical development Sir Thomas Oliver then proceeded to deal with long hours and overtime, working in continuous processes, the influence of alcohol, noise and a dusty atmosphere, as well as poverty, as causes of fatigue In the spinning department of a large cotton mill in Lancashire, which he had visited three months ago, he found men working at a temperature of 84° F and superintending 1360 spindles The men were constantly traversing the floor between the machines and there did not appear to be a minute to rest The severity of strain in this employment was so great that after 60 years of age workmen could not be kept in that department and other work had to be found for them A glance at the industrial progress of the second half of last century shows that, while the actual physical burden imposed upon workers has in many instances been lightened, the greater use of labour saving machinery has not only induced a degree of eyestrain and of muscular monotony, but has necessitated a fixation of mental attention far beyond anything hitherto required

Dr F SHUFFLEBOTHAM (Newcastle under Lyme) said that occupational fatigue was of the greatest importance, not only from a medical but also from an economic point of view, and these two aspects should be considered side by side The tendency of modern industry was not only to accelerate the processes of manufacture, but also to speed up the human machine, with the result that fatigue was one of the principal causes of both industrial diseases and accidents He then spoke of the influence of home surroundings and personal habits as factors in the production of fatigue, and said that small and crowded rooms, badly lighted and ventilated, with unsatisfactory sanitary arrangements, easily conduced to fatigue, while excess of alcohol and tobacco produced the same result He referred to the distance at which some workers lived from their work In some parts of England miners live six, seven, and even eight miles from the mine at which they are employed, and it is easy to understand that travelling such a distance twice a day in addition to the daily work, even though it be on a bicycle is a frequent cause of fatigue and in the course of time premature old age Miners who spend their leisure time in gardening are said to be affected in the same way, and in certain districts in Belgium where gardens have been attached to the miners' cottages it has been found that the output of coal per man has been considerably reduced although the working hours have been the same Dr Shufflebotham then spoke of the influence of high temperatures, and said that the new Home Office regulations with regard to the pottery industry fixed 125° F as the maximum temperature at which potters ovens should be drawn, and in view of the laborious work of the men so employed he thought it was too high This work was conducted, however, in a dry heat, and experienced workmen did not appear to be affected so much as those who commenced this kind of employment From a pathological point of view fatigue showed itself in two ways, either as arterio sclerosis in some form or other or else in such nervous diseases as writers' cramp or miners' nystagmus, both of which could be directly attributable to fatigue

Dr W F DEARDEN (Manchester) said that a moist atmosphere was undoubtedly essential to successful weaving in the cotton trade, and that the maximum temperature for weaving sheds was by law 65° F when taken with a wet bulb thermometer He specially referred to the fatigue produced among female operatives in Lancashire engaged in working at a sewing machine driven by electricity This is a comparatively new industry but one which is fast increasing, and he said that observations should be made upon the workgirls to find out to what extent they were affected by their employment Dr Dearden recommended that a medical examination be made of boys before their employment in mines, so that those unfit for the work of mining should be eliminated from the outset

Fustian cutting and Health

Dr J FORTUNE (Newcastle under Lyme) read an exhaustive and interesting paper upon the above subject He said that fustian cutting was a growing industry, and in Lancashire, Cheshire, and North Staffordshire about 12 000 people were employed in this way In many mills the work is entirely done by female labour, and he said it was almost unique in its demands on the locomotive powers the average daily distance which an operative walks being from 15 to 24 miles The majority of female workers work 10½ hours per day, but as the work is paid by piecework they rest when they like, and as it is purely manual work there is no mental strain involved, as there is in operatives who are responsible for the effective running of machinery Dr Fortune said that he had been unable to find any cases of phthisis among this class of workers and he explains this result to the fact that the physical conditions of the work have a weeding out influence He made a systematic examination of all the workers in 22 mills, and found that, generally speaking, the operatives were exceptionally healthy He had expected to find varicose veins flat feet and muscular cramp of the right forearm, but these preconceived ideas were entirely upset Constipation was uncommon and anæmia rare The pulse rate was observed under varying conditions, and he found that 55 per cent of the female workers between the ages of 13 and 17 had a pulse rate of over 100 but with advancing age the pulse rate became lower He thought that the quickened pulse rate in young girls was due to the fact that they walked quicker than the older workers

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ROYAL SANITARY INSTITUTE —The annual report shows satisfactory progress and development in the institute s work both in England and other parts of the Empire A new branch has been established in New Zealand, and the total members and associates on the roll of the institute amount to 4257 An epitome of the three years' work since the institute was established in its new premises in Buckingham Palace-road is appended to the report, and shows that the change of premises was in every way satisfactory The new buildings have been paid for out of the accumulated fund, and the growth in the income has more than overtaken the increased expenses involved by the larger buildings

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Sir THOMAS OLIVER in introducing the subject, said that "so tired" was the cry of thousands of men, women, and children at the end of a working day, and how to meet the complaint and remove its cause was one of the problems of the present age He said that it would seem that the stress of modern times was becoming too great and that the strain of industrial methods through improved machinery was becoming more than human strength could bear Fatigue is due to altered industrial methods changes in the food of the people, overcrowding, and other conditions incidental to town life The greater prevalence of functional disease lends support to the supposition that men and women are more readily overcome by fatigue than were our forebears In factories, where the working day is unduly protracted not only are accidents more numerous but the actual production of the last hour or two is much below the average Night work for women and children is a frequent cause of fatigue and the employment of young persons in arduous processes requiring the lifting and carrying of heavy weights beyond their strength and years is not only a cause of fatigue but of arrested physical development Sir Thomas Oliver then proceeded to deal with long hours and overtime, working in continuous processes, the influence of alcohol, noise and a dusty atmosphere, as well as poverty, as causes of fatigue In the spinning department of a large cotton mill in Lancashire, which he had visited three months ago, he found men working at a temperature of 84° F and superintending 1360 spindles The men were constantly traversing the floor between the machines and there did not appear to be a minute to rest The severity of strain in this employment was so great that after 60 years of age workmen could not be kept in that department and other work had to be found for them A glance at the industrial progress of the second half of last century shows that, while the actual physical burden imposed upon workers has in many instances been lightened, the greater use of labour saving machinery has not only induced a degree of eyestrain and of muscular monotony, but has necessitated a fixation of mental attention far beyond anything hitherto required

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Dr W F DEARDEN (Manchester) said that a moist atmosphere was undoubtedly essential to successful weaving in the cotton trade, and that the maximum temperature for weaving sheds was by law 65° F when taken with a wet bulb thermometer He specially referred to the fatigue produced among female operatives in Lancashire engaged in working at a sewing machine driven by electricity This is a comparatively new industry but one which is fast increasing, and he said that observations should be made upon the workgirls to find out to what extent they were affected by their employment Dr Dearden recommended that a medical examination be made of boys before their employment in mines, so that those unfit for the work of mining should be eliminated from the outset

Fustian cutting and Health

Dr J FORTUNE (Newcastle under Lyme) read an exhaustive and interesting paper upon the above subject He said that fustian cutting was a growing industry, and in Lancashire, Cheshire, and North Staffordshire about 12 000 people were employed in this way In many mills the work is entirely done by female labour, and he said it was almost unique in its demands on the locomotive powers the average daily distance which an operative walks being from 15 to 24 miles The majority of female workers work 10½ hours per day, but as the work is paid by piecework they rest when they like, and as it is purely manual work there is no mental strain involved, as there is in operatives who are responsible for the effective running of machinery Dr Fortune said that he had been unable to find any cases of phthisis among this class of workers and he explains this result to the fact that the physical conditions of the work have a weeding out influence He made a systematic examination of all the workers in 22 mills, and found that, generally speaking, the operatives were exceptionally healthy He had expected to find varicose veins flat feet and muscular cramp of the right forearm, but these preconceived ideas were entirely upset Constipation was uncommon and anæmia rare The pulse rate was observed under varying conditions, and he found that 55 per cent of the female workers between the ages of 13 and 17 had a pulse rate of over 100 but with advancing age the pulse rate became lower He thought that the quickened pulse rate in young girls was due to the fact that they walked quicker than the older workers

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ROYAL SANITARY INSTITUTE —The annual report shows satisfactory progress and development in the institute's work both in England and other parts of the Empire A new branch has been established in New Zealand, and the total members and associates on the roll of the institute amount to 4257 An epitome of the three years' work since the institute was established in its new premises in Buckingham Palace-road is appended to the report, and shows that the change of premises was in every way satisfactory The new buildings have been paid for out of the accumulated fund, and the growth in the income has more than overtaken the increased expenses involved by the larger buildings decide if occasion arises all differences of opinion between the head of a department and such assessors

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The First Constituent Colleges and University Departments

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Additional Income Needed.

In order to qualify the foregoing constituent colleges and university departments to take their place within the University, to establish an evening constituent college in the Faculties of Arts and Science at the Birkbeck College, to establish a University Department of Oriental Studies at the London Institution, and to maintain three constituent colleges in medicine attached to hospitals (as recommended above), the University will need additional income for—(*a*) professorships, readerships, and the maintenance of libraries and laboratories amounting to £85,500; and (*b*) reduction of fees to University students to £15 per annum for arts, £20 per annum for science, £30 per annum for technology—£13,500—making a total further income needed of £99,000 a year.

Area of the University for Constituent Colleges and University Departments.

The area of the University for the admission of constituent colleges and university departments is recommended to be that of the Administrative County of London, although the Commissioners look favourably upon certain logical extensions of that area suggested by Mr Sidney Webb

Site of University Quarter and Central University Buildings.

The constituent colleges and university departments of the University are to be concentrated as far as possible in Bloomsbury, and to this end King's College, and if possible the University Department of Household and Social Science and the Brown Animal Sanatory Institution, should be moved to Bloomsbury. The central University buildings, also in Bloomsbury, will include—(*a*) A great hall for University ceremonies and large educational gatherings. (*b*) Accommodation for the Senate, for committees, for the principal, and for the headquarters staff (*c*) Accommodation for the meetings of Convocation and for its officers. (*d*) A club house for the union societies, headquarters for the Officers' Training Corps, and rooms for professors, graduates, and students (*e*) A central university library supplementing the libraries in the constituent colleges, university departments, and schools Examination halls, in so far as they are required, are to be built in some accessible part of London where land is cheaper than in Bloomsbury.

Schools of the University.

Those public educational institutions or groups of departments in larger educational institutions which are not under the educational and financial control of the University will be schools of the University in compliance with the necessary conditions In the case of a hospital medical school the governing body is to appoint a committee of its own members, with the addition of University representatives and representatives of the teachers to conduct the business, and to this committee a board of teachers is to report. For every hospital medical school there is to be a group of teachers, each qualified by his attainments, his remuneration, and the conditions of his work, for university teaching and for the work entrusted to him; and the group must be collectively adequate to give instruction covering all the non-clinical subjects of the course for a degree in medicine which fall within the purview of the school In the case of schools which have transferred the teaching of the intermediate subjects to the University, only the later non-clinical subjects for which the school is responsible will fall within their purview

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The following institutions which are at present schools of the University will be the first schools in medicine of the reconstituted University, provided they comply with the foregoing conditions.—The Medical School of St. Bartholomew's Hospital, the Medical College of the London Hospital, the Medical School of Guy's Hospital, the Medical School of St. Thomas's Hospital the Medical School of St George's Hospital, the Medical School of King's College Hospital, the Medical School of the Middlesex Hospital, the Medical School of St Mary's Hospital, the Medical School of Charing decide if occasion arises all differences of opinion between the head of a department and such assessors

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A Garnishee Order in Respect of Medical Fees under the National Insurance Act.

An important legal question affecting medical men upon panels under the Insurance Act was recently raised at the Lambeth county court before his honour Judge Parry, who delivered a considered judgment. The matter arose out of the indebtedness of a medical practitioner to the plaintiff under an order for costs made recently against him in the High Court. The defendant being on the panel under the Insurance Act, was owed by the London Insurance Committee £33 for his services to insured patients. The plaintiff obtained a "garnishee" order under which the above sum was paid into the county court and a summons issued against the defendant, calling upon him to show cause why the money should not be paid out to the plaintiff. It may be mentioned that a garnishee order is in effect a warning to a person who owes money to another not to pay it over to him because it is claimed by the person who takes out the garnishee order. The money is then said to be "garnisheed," or, by old fashioned lawyers, "garnished," and the court takes charge of it, thus relieving the person who has it of the risk of paying it to the wrong person, in which event he might have to make it good to the right one. The novelty of the case as arising out of the Insurance Act was due no doubt to the obvious practical impossibility of garnishing fees paid, perhaps in very small sums, by a large number of patients to a medical practitioner. When the money is collected in one amount in the hands of an Insurance Committee the position is at once altered. The serious importance of the matter to a medical man whose patients may be wholly, or nearly so, insured persons arises out of the possibility that he may be deprived all at once of his income for a considerable period, in respect of a debt which otherwise he may arrange to pay by instalments. The question of the power to arrest a medical man's fees under the Insurance Act was at once raised by Judge Parry on the application to pay out the money in court being made before him, and he showed a sympathetic appreciation towards the possible hardships arising in such a matter throughout the argument, referring to the medical man's work under the Act as a public service which could only be rendered by one having the money to buy the necessaries of life. There was not, however, apparently any authority against the employment of the garnishee order in the circumstances described, and the learned county court judge adjourned the case after hearing argument in order that he might give the point further consideration. At a later date, in delivering his judgment, he said that the cases decided in the High Court laid down that a county court judge had full discretion as to the course that he should adopt in making an order for the payment of money out of court upon such an application as that before him. It was his duty to "temper the wind to the shorn lamb." He, therefore, proposed to follow the course that he was in the habit of following in making orders against judgment debtors. Upon this it was stated on behalf of the plaintiff that the defendant had 833 patients on his list and, on the other hand the defendant protested that he had no other patients from whom he could derive fees. His honour, in conclusion, made an order for the payment of £10 with costs to the plaintiff, the balance to be paid to the defendant. The point is one of interest to creditors and debtors, and the result of its submission to High Court, if the appeal takes place will be awaited with interest.

ASYLUM WORKERS' ASSOCIATION.—This association, the objects of which are to raise the status of asylum workers and to help them in times of need held its annual meeting in the rooms of the Medical Society, Chandos street London, W., on May 28th. Sir John Jardine M.P., presided. The annual report showed for the first time in several years a falling off in membership, though it is hoped that this backward movement is only a temporary one. Of life associate, and ordinary members there were 5860 in 1911, as compared with 4310 in 1912 the ordinary members for the same yea t the end of 1912 the the association, the

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IT is hoped that members of the Congress who speak foreign languages will be willing to wear a small badge denoting the language or languages which they can speak. Such an arrangement will be a great convenience to foreign visitors, and it is requested that those who will thus act as voluntary interpreters will communicate with the general secretary, 40 Wimpole street, W. He will be very grateful for their assistance.

SECTION OF RADIOLOGY.

This is the first time there has been a Section of Radiology included in the International Congress of Medicine, and every effort is being made to show that the advance in this branch of medical science fully justifies the formation of a separate section.

The section of which Sir James Mackenzie Davidson is President, deals with X ray work in all its branches and with radium therapy, but does not include electrotherapeutics. This subject is dealt with, as before, under the heading of Physiotherapy, a subsection of the Section of Therapeutics. Some little irritation is apparently felt on the continent at the non inclusion of electrotherapeutics. The formation of a separate Section of Radiology has, however, been entirely due to the energetic action of radiologists. There has been no special effort on the part of electrotherapeutists either to obtain a section for themselves or to be included in the Section of Radiology until too late, and therefore it behoves workers in this branch of medicine to see that they are more adequately represented at the next Congress.

With regard to the programme, the mornings are to be devoted to discussions of special interest and the afternoons to the reading of papers. A good lecture theatre has been secured in the new School of Mines at South Kensington, which can be completely darkened, and will be provided with a lantern for the demonstration of lantern slides; provision will also be made for the illumination of original negatives where this is considered necessary. In the museum a room will be set aside for the exhibition of transparencies, and adjoining this there will be a continuation of the department of radiology in which apparatus skiagrams and other daylight exhibits can be shown. Members wishing to exhibit should communicate direct with Mr. H. W. Armit, honorary secretary of the Museum Committee.

The following is the list of the discussions, together with the reporters selected for each. The Radiography of the Stomach and Intestines (Dr. Holzknecht and Dr. Leonard), that of the Chest (Dr. Hugh Walsham and Professor Wenckebach), the Radiotherapy of Malignant Disease (Dr. Abbé and Dr. Kienbock), Roentgen and Radium Therapy in Gynæcology, a joint discussion with the Section of Obstetrics and Gynæcology (Dr. Albers Schonberg, Dr. Foveau de Courmelles and Professor Kronig), the Radiography of Bones and Joints and its Value in Orthopædic Surgery, another joint discussion, this time with the Subsection of Orthopædics (Dr. Fedor Haenisch, Dr. Nové Josserand, and Dr. P. Redard).

Many offers of papers have been received, but the final selection of these has not yet been made. Preference will be given to papers received before April 30th, and no paper can be considered unless the title has been received by the secretary before July 1st. Any members wishing to read papers, who have not yet made application should communicate at once with Dr. G. Harrison Orton, honorary secretary, 67 Upper Berkeley street, Portman-square, London, W.

Everything possible is being done in the direction of the entertainment of foreign guests. A dinner will be held probably on August 8th, to which members may bring their lady friends, and the Electrotherapeutic Section of the Royal Society of Medicine and the Roentgen Society are ... nt to take place

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The following is the list of the discussions, together with the reporters selected for each The Radiography of the Stomach and Intestines (Dr Holzknecht and Dr Leonard), that of the Chest (Dr Hugh Walsham and Professor Wenckebach), the Radiotherapy of Malignant Disease (Dr Abbé and Dr Kienbock), Roentgen and Radium Therapy in Gynæcology, a joint discussion with the Section of Obstetrics and Gynæcology (Dr Albers Schonberg, Dr Foveau de Courmelles and Professor Kronig), the Radiography of Bones and Joints and its Value in Orthopædic Surgery, another joint discussion, this time with the Subsection of Orthopædics (Dr Fedor Haenisch Dr Nové Josserand, and Dr P Redard)

Many offers of papers have been received, but the final selection of these has not yet been made Preference will be given to papers received before April 30th, and no paper can be considered unless the title has been received by the secretary before July 1st Any members wishing to read papers, who have not yet made application should communicate at once with Dr G Harrison Orton, honorary secretary, 67 Upper Berkeley street, Portman-square, London, W

Everything possible is being done in the direction of the entertainment of foreign guests A dinner will be held probably on August 8th, to which members may bring their lady friends, and the Electrotherapeutic Section of the Royal Society of Medicine and the Roentgen Society are nt to take place

tainment of foreign ladies but the present necessarily incomplete six preceding weeks, had slightly declined to 1430 on Saturday last, 177 new cases were admitted during the week, against 206, 171, and 193 in the three preceding weeks These hospitals also contained on Saturday last 808 cases of diphtheria, 530 of measles, 299 of whooping cough, and 41 of enteric fever, but not 1 of small pox The 1116 deaths from all causes in London were 40 fewer than the number in the previous week, and were equal to an annual death rate of 12 9 per 1000 The deaths referred to diseases of the respiratory system, which had declined *from 255 to 186 in the four preceding weeks, further fell to* 162 last week, but were 19 in excess of the number recorded in the corresponding week of last year

Of the 4623 deaths from all causes in the 96 towns, 172 resulted from various forms of violence and 350 were the subject of coroners' inquests The causes of 24 or 0 5 per cent, of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest *All the causes of death were duly certified in* London and in 13 of its 14 suburban districts in Sheffield, Leeds Bristol, Bradford Hull Newcastle on Tyne, and in 60 other smaller towns The 24 uncertified causes of death last week included 4 in Birmingham, 3 in Liverpool 2 in Portsmouth, 2 in Stoke on Trent, and 2 in Sunderland

HEALTH OF SCOTCH TOWNS

In the 16 largest Scotch towns with an aggregate population estimated at 2 259 600 persons at the middle of this year, 1223 births and 724 deaths were registered during the week ended Saturday, May 31st The annual rate of mortality in these towns which had steadily declined from 17 7 to 16 3 per 1000 in the six preceding weeks, rose to 16 7 per 1000 in the week under notice During the *first nine weeks of the current quarter the mean annual* death rate in these Scotch towns averaged 17 0 against 14 4 per 1000 in the 96 large English towns Among the several towns the annual death rate last week ranged from 3 0 in Kilmarnock 6 1 in Ayr and 8 8 in Falkirk to 18 9 in Paisley and in Hamilton 20 1 in Greenock, and 24 7 in Aberdeen

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TWO CENTENARIANS —Mrs Charles Cooper, of 61 Upper Church road, Weston super Mare celebrated the 100th anniversary of her birthday last week —Mrs Skelton, of Stroud, attained her 101st birthday on May 29th

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	Total.	Per 1000.
Killed	1883	44 7
Died from wounds	127	2·8
Invalided	153	3 5
Recovered	1529	35·8
	3692	86·8

The table speaks volumes for the efficiency of the Japanese surgeons. Included in these totals are the 1080 men drowned and 143 injured in the sinking of their ships. Of those actually damaged in battle half were injured in one or other of the three great battles, and their disposal was as follows:—

Casualties in the Fleet Actions per 1000 Injured or Killed.

	Russo-Japanese war.	In our French wars about 1800.
Killed in the three great battles	165	250
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Invalided...	75	95
Recovered and went to duty ...	705	580
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Killed means people who died without having their wounds dressed even once; they were more numerous formerly, the ligature being scarcely known. The ships that lost most heavily were the *Yoshino* class, who had 37 per cent. casualties; the marine artillery at the siege of Port Arthur lost 35 per cent.; and the battleships 27 per cent., as did the torpedo flotillas. Admiral Togo's proud flagship *Mikasa* lost in battle more heavily than any other ship, 28 per cent., but 86 per cent. of the *Hatsuse's* crew were drowned when she foundered. Officers lost 17 per 1000; the navigating staff, always on the bridge (perhaps that is why), lost far more than any other group. The engine room staff had few wounds, but many deaths from drowning. The painstaking Japanese have divided the injuries into two groups, 2840 the direct result of the war (shells, fragments of ship, bullets and drowning) and 852 indirectly due to the war—rupture of membrana tympani or crush of hand by the mechanism of one's own gun. There are very neat and elaborate tables which will be useful to historians, and the medical profession should be grateful to the Japanese surgeons for so carefully putting so many interesting facts on record.

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THE OLIVER-SHARPEY LECTURES.

To the Editor of THE LANCET.

SIR,—In common, I feel sure, with all who are interested in cardio-vascular physiology and pathology, I have read with pleasure and instruction Dr. A. D. Waller's Oliver-Sharpey Lectures on the Electrical Action of the Human Heart, reported in your issues of May 24th and 31st.

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It is, indeed, upon this canter that I chiefly desire to comment, only premising my remarks on this subject by stating that I have also read with much interest Dr. Waller's account of auriculo-ventricular dissociation on pp. 1515–16, and merely remark in this connexion that I do not think the anatomy of the auriculo-ventricular bundle is yet sufficiently determined to be assumed to be common knowledge, nor, such as it is, a final conception of that structure.

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THE LANCET of Oct. 8th, 1910, contains a minute study of such a case which was under my care at the Great Northern Central Hospital, under the title "The Meaning of the Audible Signs in Mitral Stenosis." This case exhibited tachycardia, bradycardia, cantering rhythm, complete ventricular irregularity (auricular fibrillation), and the normal rhythm with which it was discharged from hospital. The only part of this paper to which I shall refer is my explanation of the cantering, or, as I called it, the triple rhythm, for which *tegmine* with a long and soft final vowel is certainly a more euphonious symbol than the "lup-lup-dup" which I employed. Dr. Waller makes the final vowel short, which distinguishes a quick from a slow canter, although the canter cannot be quickened much without being abolished and giving place to the ordinary first and second sounds of the heart, a condition which is constantly induced by making a patient evincing the canter in the recumbent position sit up in bed, when, with the acceleration and augmentation dependent upon movement, the added sound frequently disappears. In the paper which you published, and which was originally

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Owing to want of space it is impossible to make adequate provision for our nurses, and most of the bedrooms are shared by two or three The question of the proper housing of the nursing staff was one in which the late Duke took the greatest personal interest, and in the hope of improving matters an appeal was made under his direction which resulted in some £2000 being subscribed towards a new " Home "

A further £10 000 is required to carry out the work, and it is earnestly hoped that sufficient help will be forthcoming to enable the late President s wish to be realised, and at the same time afford an opportunity for the board to associate his name for ever with a work which he had so much at heart

Contributions however small, will be very gratefully received and may be addressed to us at the hospital

We are, Sir, yours faithfully,
ARTHUR HILL
Chairman " Abercorn Memorial
Executive Committee
GEO F MARSHALL
June 3rd 1913 Chairman West London Hospital

PS —Up to the present a total sum of £3200 has been received

THE LATE MR JORDAN LLOYD

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Cheques should be made payable to the Queen s Hospital (Jordan Lloyd Memorial Fund) and forwarded to Mr H F Keep, Queen's Hospital, Birmingham

I am, Sir, yours faithfully
DOUGLAS STANLEY,
Chairman of the Medical Committee
Queen s Hospital Birmingham June 3rd 1913

PROGERIA AND ATELEIOSIS

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I wish to indicate (in case the fact should not be known already) to Mr Hastings Gilford, Professor Keith, and other readers of THE LANCET who are interested in this subject that there are the following cases of this condition (amongst many others) touring about Europe or America in " shows " and to submit that it would be deplorable if any of them were permitted to die without necropsy, for it would be a great waste of opportunity I may say that I have myself endeavoured to make arrangements for this to be done, but without any success and I have come to realise that only the great can bring this to pass, and that the efforts in this direction of such as myself will be as they have been, unavailing

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Owing to want of space it is impossible to make adequate provision for our nurses, and most of the bedrooms are shared by two or three The question of the proper housing of the nursing staff was one in which the late Duke took the greatest personal interest, and in the hope of improving matters an appeal was made under his direction which resulted in some £2000 being subscribed towards a new " Home "

A further £10 000 is required to carry out the work, and it is earnestly hoped that sufficient help will be forthcoming to enable the late President s wish to be realised, and at the same time afford an opportunity for the board to associate his name for ever with a work which he had so much at heart

Contributions however small, will be very gratefully received and may be addressed to us at the hospital

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ARTHUR HILL
Chairman " Abercorn Memorial
Executive Committee
GEO F MARSHALL
June 3rd 1913 Chairman West London Hospital

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MANCHESTER

(FROM OUR OWN CORRESPONDENT)

The University of Manchester

FROM the annual statement of the Vice Chancellor we find that altogether there were 1663 students attending the University during 1912-13, and of these 372 are medical students, including 32 women students Of these, 134 are preparing for degrees of the University, 7 for the University of London, 10 for other universities, 2 for F R C S , 29 for Conjoint Board, 3 for the Triple qualification, 3 for the Diploma in Psychological Medicine, 3 for B D S , 48 for L D S Manch , 15 for L D S Eng , and 41 are working in special departments—viz , medical, 5 , pharmaceutical, 5 , and public health, 31 —In the dental department an arrangement, which has been approved by the Board of Education, has been made with the Manchester Dental Hospital In view of this arrangement the Board now makes a substantial grant in respect of the clinical instruction given in the Dental Hospital to students reading for the degree or diploma in dentistry A substantial sum will thus become available annually for the maintenance and improvement of clinical instruction and for providing facilities for students in the dental department — Some time ago the University formulated a scheme for a Diploma in Ophthalmology somewhat on the lines of the diplomas in this subject in other universities This scheme received the approval of Senate and Council At a meeting of Convocation held on May 23rd this body, by a majority, passed a resolution that "in the opinion of Convocation the institution of a Diploma in Ophthalmology is not to be desired " This resolution was forwarded to the Court which met on May 28th when the question was referred back for further consideration At the same meeting of the Court, Lord Morley presiding, a letter was read from the Vice Chancellor, Sir Alfred Hopkinson, tendering his resignation of the office of Vice Chancellor A unanimous resolution was passed asking the Vice Chancellor to reconsider his decision "in the interests of the University '

Virtues of Gas and Gas Fires Manchester s Smoky Atmosphere

The Manchester and Salford Sanitary Association held its annual meeting last week, when it was reported that a committee had undertaken an inquiry into the question of gas fires and their wholesomeness The results of the inquiry will, it is hoped, lead to the improvement of gas fires, and probably help to promote their extended usefulness An address was given by Mr William Thomson on Gas Fires their Proper Construction, Economic Use and Hygienic Advantages The subject was treated rather from the point of view of the chemist than from that of the engineer Mr Thomson ridiculed the notion that a basin of water placed near a gas fire tended to moisten the atmosphere A strong appeal was made for cheapening the charge for gas, so as to encourage the general use of gas fires A great advantage through the burning of gas in houses and offices would be the keeping of the air of the town purer, thereby obviating the enormous injury caused to decorations and the great cost of washing and cleaning entailed by "the present barbarous method of burning raw coal The speaker mentioned a weaving shed with an area of 11 000 square yards from which was taken 40 tons of sludge this having accumulated in three years and this amount, he contended, was due entirely to the dirty atmosphere of the city Another speaker went further, and stated that every foreigner who came to Manchester spoke of the filthiness of the working class house It is claimed that the gas fires recently placed on the market show a great improvement over the gas fires previously available even four or five years ago, and that they give about 50 per cent of their heat by means of radiation and only about 25 per cent by means of convection the remaining 25 per cent being utilised to ventilate the room and carry off the products of combustion The most hygienic source of heat is the sun The heat rays from such a radiant body do not heat the air through which they pass In this connexion reference may be made to the paper contributed by Professor Leonard Hill and Mr F F Muecke to THE LANCET of May 10th on "Colds in the Head " The heat given out by a modern gas fire causes the nose to be less susceptible to infection than convection heat An all essential point regarding the modern gas fire is that it should be most carefully fixed, so that none of the products of combustion reach the atmosphere of the living room

Lancashire Education Committee s Report on Defects in School Children

Last year, out of 51,356 school children examined by the Lancashire education committee s medical inspectors, no fewer than 24 901 were found to have physical defects The number of children on the roll was 153,711, and the average attendance was 131 584, 5188 being half timers The most common ailments were skin diseases 7369 , enlarged tonsils, 3787 , adenoids, 1570 , while 5339 had very bad teeth The total number of actual eye diseases was 2221, and there were 1121 cases of squint Heart disease was found in 278 diseases of the lungs in 499, rickets in 942, and 418 were under nourished

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June 3rd

NEWCASTLE-ON-TYNE

(FROM OUR OWN CORRESPONDENT)

Royal Victoria Infirmary Presentations to Dr David Drummond and Sir Thomas Oliver

A quarterly court of governors of this charity was held on May 29th in the infirmary, Sir Riley Lord presiding over a large attendance Apart from pure business the main feature of the meeting was the presentation of illuminated addresses to Dr David Drummond and Sir Thomas Oliver, M D , on the occasion of their retirement from the active staff of the institution the statutory age limit being attained In presenting the address to Dr Drummond Sir Riley Lord *expressed the great regret of the governors* that the time had arrived for his retirement Dr Drummond had been an honorary physician for 34 years, a period which had only been exceeded on one previous occasion, by the late Dr Thomas Emerson Headlam, who was physician for 38 years Dr Drummond s association with the infirmary had been a notable one, distinguished by faithful attention to duty and careful observance of official responsibility By his distinctive ability and diagnostic acumen he had attained to a position of eminence and fame in his profession and as a professor of clinical medicine he had maintained the traditions of the infirmary The address, which Sir Riley Lord then presented to Sir Thomas Oliver, pointed out that the recipient had been a physician on the staff for 33 years and paid a tribute to his high even international, reputation as a scientific physician and a practical physiologist It commented on the effects of his investigations on trade conditions and their relation to the public health, and pointed out the resulting benefactions to the industrial community

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SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Scottish Medical Insurance Council.

THE Scottish Committee of the British Medical Association has withdrawn from the Medical Insurance Council, a step which appears to lead to the dissolution of that Council.

Causes of Abnormally Defective Eyesight at Kilsyth.

Dr. J. B. Stewart, at the request of the Kilsyth burgh school board, has prepared a report on the causes of the abnormal extent of defective eyesight which he found when examining the Kilsyth school children compared with others. He points out that heredity plays an important part in the cause of defective vision. Kilsyth is a mining area and coal mining has a very trying effect on the miners' eyes. If there was any defect present when a young man began his career in the mines it was certainly not improved by his subsequent work there. This going on for several generations accounted in a large measure for the present condition of the eyes of Kilsyth children.

Infant Mortality in Paisley.

The work being done in Paisley by the burgh local authority and private agencies with the view of minimising the mortality of infants under one year of age has been summarised by the medical officer of health for the burgh. Last year the number of infants under one year who died was 209, which gave an infantile mortality rate of 92.15 per 1000 births, being 33 deaths less than the previous year, when the rate was 111.72 per 1000 births. It is only right to point out, however, that there were during the past year exceptional circumstances which conduced to this result. Work was more plentiful, and the conditions which affect very young children in times of unemployment were absent. The medical officer of health in his report drew attention to the question of hospital accommodation for children. In this respect Paisley compares badly with other towns. The Royal Alexandra Infirmary admits young children but these are accommodated along with the adults, and the number of admissions is, in the circumstances, limited. Although for a general hospital the percentage of children is high, in other towns the children's hospital does away with the necessity for many admissions to the general hospital. The local authority during the past year has been in communication with the infirmary directors regarding this matter, but it is understood that the directors for financial reasons are meanwhile unable to do anything further.

Insurance Medical Benefit for Temporary Residents.

At a special meeting of the Aberdeen Borough Health Insurance Committee held on May 30th the clerk read a letter from the Commissioners regarding the provision of medical benefit to temporary residents, with a view to eliciting the views of the committee on the two alternative schemes. The chairman explained these alternatives and the unsatisfactory nature of the present arrangement whereby a person going out of his own insurance district had to give notice to the committee in whose district he was to be temporarily resident. The difficulty of getting insured persons to do so was, he said, very great. A separate memorandum had been issued with regard to fish workers requesting employers to give notice to all the workers who were removing from one district to another in order that special provision might be made for them in regard to medical benefit. The method suggested by the Commissioners was that the doctor should be paid for those workers on a basis of attendance. With regard to the two methods suggested by the Commissioners for the provision of medical benefit to temporary residents, the first—namely, that a central fund be formed on the basis of a case value contribution, which meant that if in Aberdeen each case cost 10*s.* and in Aberdeenshire 6*s.*, if any person from Aberdeen went into the county and required medical attendance the city committee would be charged 10*s.*, and if someone from the county came into the town of Aberdeen and required medical attendance the county committee would be charged 6*s.*—was the one generally preferred by the Medical Committee. Generally speaking, however, the Medical Committee were of opinion that a much better system would have been to have had the central fund contributed by Parliament. There did not seem to be any likelihood of either alternative being generally accepted by the profession; in fact, the medical men in the county had refused to do so. Eventually it was agreed that the scheme could not be brought into operation for the present year, but cognisance was taken of the fact that the local committee had unanimously preferred the case value system.

Insurance Act Grievances in Dundee.

Owing to the fact that there are 95 deposit contributors resident in Dundee who had not a sufficient sum at the credit of their accounts as at Jan. 13th last, to permit of their continuing to receive medical benefit after April 30th, a special committee has been appointed to give consideration to the matter and bring forward recommendations. The clerk to the Dundee Insurance Committee had sent out intimations to the deposit contributors, and a large proportion of these had been returned by the Post Office "Not found." It was remarked at a meeting of the Insurance Committee that some of the persons concerned might not get entry into any Approved Society, and if that sort of thing happened periodically a serious defect in the Act would be revealed.

Insurance Act Difficulty in Orkney.

It was reported at a meeting of the Orkney Insurance Committee held on May 30th that doctors in the herring fishing districts had agreed, on certain conditions, to treat insured persons who had come to the county for the fishing season, but that an answer had not been received from the Insurance Commissioners to communications sent to them on the matter. Certain proposals were made to overcome the difficulty of change of address not being intimated by the fishing population. The only doctor in Stronsay, the chief herring fishing port in Orkney, had intimated that he was willing to give his services if a reasonable capitation grant were accorded, but he would not agree to payment on an attendance basis, on account of the amount of clerical work involved. The matter was left in the hands of the Medical Benefits Committee. It is understood that the position of affairs was made known to the Insurance Commissioners last autumn, but it was only within a week or two of the commencement of the fishing that the local committee was consulted.

June 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Birthday Honours.

KNIGHTHOODS have been conferred on Mr. Andrew J. Horne and Mr. Robert H. Woods. Sir Andrew Horne was President

and is the pres of Medicine in Ireland. Sir Robert the Royal Academy of the Royal College of Surgeons in Woods was President and is at present President of the Ireland from 1910 to 1912, and chairman of the conjoint Irish Medical Association and the British Medical committee of this association. A well known laryngologist he has been Association. President of the British Laryngological Association.

Royal College of Surgeons in Ireland: Election of Officers.

The annual election for the President, Vice-President, Secretary, and Council was held on Monday last and the following were elected for the ensuing year:—President: Mr. Richard D. Purefoy. Vice-President: Mr. F. Conway Dwyer. Secretary: Sir Charles A. Cameron. Council: Mr. William Stoker, Sir Charles A. Cameron, Sir Lambert H. Ormsby, Mr. Henry Gregg Sherlock, Sir Charles B. Ball, Mr. John B. Story, Sir Thomas Myles, Sir John Lentaigne, Sir Arthur Chance, Mr. F. T. Porter Newell, Mr. Shepherd McCormick Boyd, Sir Robert H. Woods, Mr. Richard Lane Joynt, Mr. R. Bolton McCausland, Mr. Edward H. Taylor, Mr. William Taylor, Mr. R. Charles B. Maunsell, Mr. Trevor N. Smith, and Mr. W. Ireland de Courcy Wheeler. The result of the elections to the Council gave rise to some surprise by reason of its omissions.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS)

The Scottish Medical Insurance Council

THE Scottish Committee of the British Medical Association has withdrawn from the Medical Insurance Council, a step which appears to lead to the dissolution of that Council

Causes of Abnormally Defective Eyesight at Kilsyth

Dr J B Stewart, at the request of the Kilsyth burgh school board, has prepared a report on the causes of the abnormal extent of defective eyesight which he found when examining the Kilsyth school children compared with others He points out that heredity plays an important part in the cause of defective vision Kilsyth is a mining area and coal mining has a very trying effect on the miners' eyes If there was any defect present when a young man began his career in the mines it was certainly not improved by his subsequent work there This going on for several generations accounted in a large measure for the present condition of the eyes of Kilsyth children

Infant Mortality in Paisley

The work being done in Paisley by the burgh local authority and private agencies with the view of minimising the mortality of infants under one year of age has been summarised by the medical officer of health for the burgh Last year the number of infants under one year who died was 209, which gave an infantile mortality rate of 92 15 per 1000 births, being 33 deaths less than the previous year, when the rate was 111 72 per 1000 births It is only right to point out, however, that there were during the past year exceptional circumstances which conduced to this result Work was more plentiful, and the conditions which affect very young children in times of unemployment were absent The medical officer of health in his report drew attention to the question of hospital accommodation for children In this respect Paisley compares badly with other towns The Royal Alexandra Infirmary admits young children but these are accommodated along with the adults, and the number of admissions is, in the circumstances limited Although for a general hospital the percentage of children is high, in other towns the children's hospital does away with the necessity for many admissions to the general hospital The local authority during the past year has been in communication with the infirmary directors regarding this matter, but it is understood that the directors for financial reasons are meanwhile unable to do anything further

Insurance Medical Benefit for Temporary Residents

At a special meeting of the Aberdeen Borough Health Insurance Committee held on May 30th the clerk read a letter from the Commissioners regarding the provision of medical benefit to temporary residents, with a view to eliciting the views of the committee on the two alternative schemes The chairman explained these alternatives and the unsatisfactory nature of the present arrangement whereby a person going out of his own insurance district had to give notice to the committee in whose district he was to be temporarily resident The difficulty of getting insured persons to do so was he said, very great A separate memorandum had been issued with regard to fish workers requesting employers to give notice to all the workers who were removing from one district to another in order that special provision might be made for them in regard to medical benefit The method suggested by the Commissioners was that the doctor should be paid for those workers on a basis of attendance With regard to the two methods suggested by the Commissioners for the provision of medical benefit to temporary residents, the first—namely, that a central fund be formed on the basis of a case value contribution, which meant that if in Aberdeen each case cost 10*s* and in Aberdeenshire 6*s*, if any person from Aberdeen went into the county and required medical attendance the city committee would be charged 10*s*, and if someone from the county came into the town of Aberdeen and required medical attendance the county committee would be charged 6*s* —was the one generally preferred by the Medical Committee Generally speaking, however the Medical Committee were of opinion that a much better system would have been to have had the central fund contributed by Parliament There did not seem to be any likelihood of either alternative being generally accepted by the profession, in fact, the medical men in the county had refused to do so Eventually it was agreed that the scheme could not be brought into operation for the present year, but cognisance was taken of the fact that the local committee had unanimously preferred the case value system

Insurance Act Grievances in Dundee

Owing to the fact that there are 95 deposit contributors resident in Dundee who had not a sufficient sum at the credit of their accounts as at Jan 13th last, to permit of their continuing to receive medical benefit after April 30th, a special committee has been appointed to give consideration to the matter and bring forward recommendations The clerk to the Dundee Insurance Committee had sent out intimations to the deposit contributors, and a large proportion of these had been returned by the Post Office "Not found" It was remarked at a meeting of the Insurance Committee that some of the persons concerned might not get entry into any Approved Society, and if that sort of thing happened periodically a serious defect in the Act would be revealed

Insurance Act Difficulty in Orkney

It was reported at a meeting of the Orkney Insurance Committee held on May 30th that doctors in the herring fishing districts had agreed, on certain conditions, to treat insured persons who had come to the county for the fishing season, but that an answer had not been received from the Insurance Commissioners to communications sent to them on the matter Certain proposals were made to overcome the difficulty of change of address not being intimated by the fishing population The only doctor in Stronsay, the chief herring fishing port in Orkney, had intimated that he was willing to give his services if a reasonable capitation grant were accorded, but he would not agree to payment on an attendance basis, on account of the amount of clerical work involved The matter was left in the hands of the Medical Benefits Committee It is understood that the position of affairs was made known to the Insurance Commissioners last autumn, but it was only within a week or two of the commencement of the fishing that the local committee was consulted

June 2nd

IRELAND

(FROM OUR OWN CORRESPONDENTS)

Birthday Honours

KNIGHTHOODS have been conferred on Mr Andrew J Horne and Mr Robert H Woods Sir Andrew Horne was President [illegible] and is the present [illegible] the Royal Academy of Medicine in Ireland Sir Robert Woods was President of the Royal College of Surgeons in Ireland from 1910 to 1912 and is at present President of the Irish Medical Association and chairman of the conjoint committee of this association and the British Medical Association A well known laryngologist he has been President of the British Laryngological Association

Royal College of Surgeons in Ireland Election of Officers

The annual election for the President, Vice President, Secretary, and Council was held on Monday last and the following were elected for the ensuing year —President Mr Richard D Parefoy Vice President Mr F Conway Dwyer Secretary Sir Charles A Cameron Council Mr William Stoker, Sir Charles A Cameron, Sir Lambert H Ormsby Mr Henry Gregg Sherlock, Sir Charles B Ball, Mr John B Story, Sir Thomas Myles Sir John Lentaigne Sir Arthur Chance, Mr F I Porter Newell Mr Shepherd McCormick Boyd, Sir Robert H Woods, Mr Richard Lane Joynt, Mr R Bolton McCausland Mr Edward H. Taylor, Mr William Taylor Mr R Charles B Maunsell, Mr Trevor N Smith, and Mr W Ireland de Courcy Wheeler The result of the elections to the Council gave rise to some surprise by reason of its omissions held in honour of this congress, the Society of Legal Medicine was attended by most of the members of the Congress. The programme included the means of checking the use of narcotic drugs (opium, morphine, cocaine, ether, haschisch) which now constitutes a social danger. Maitre Rocher and M. Régis, M. Vallon, and M. Lacassagne spoke, after which M. Bertillon demonstrated the latest advances in judicial photographometry, and M. Ménard discussed errors of interpretation in radiography.

The Prophylaxis of Gastro-enteritis in Sucklings.

M. Gallois related at the Société de Thérapeutique on May 14th the results of a personal observation. During a very hot summer 12 out of 14 children died on the same day in the crèche of the Hôpital Hérold. Much moved by the waste of life, M. Gallois conceived the idea of having the rooms cooled with large blocks of ice, and this fearful mortality did not recur. Now that this idea has been taken up by other medical men M. Gallois recalled his former experiences.

"*Murderous Measles.*"

If of old time—that is, before the discovery of antidiphtheritic serum—diphtheria was the greatest enemy of children in France, a disease formerly considered benign—viz., measles—replaces it nowadays in fatality, causing at least as many deaths as, if not more than, diphtheria caused before the discovery of antitoxin. Municipal statistics show in Paris about 30 to 40 deaths a week from measles. In the past six weeks the figures have varied between 21 and 45 deaths, the annual rate oscillating about 900. In 1910 there were 860 deaths in children, in 1911 808 deaths from this cause. An inquiry in the Paris hospitals shows that the death toll of measles varies between 15 and 20 per cent. In two hospitals alone—Saint Joseph and the Hôpital Pasteur—the mortality has not risen above 4 or 5 per cent. This marked difference may be due to the fact that cubicular isolation is practised in these two hospitals. The cause of the increased fatality is to be found principally in the fact that the compulsory notification of measles is followed by no prophylactic measures. It is true that disinfection is of little use, for the microbe dies as soon as desiccation is established. But what would be useful is that hygienic precautions should be taken in the schools attended by children with measles. There is no coöperation between the prefecture of police and the sanitary services of the Ministry of the Interior and of the Ministry of Public Instruction. The lycées are even less defended against an epidemic of measles than are the communal schools, in which a medical service is in operation. If in the hospitals measles kills from 15 to 20 per cent. of sick children it is because they are not isolated. Measles is a benign disease, but the secondary complications, especially broncho-pneumonia and diphtheria, which so frequently follow thereon, cause the greater part of the deaths.

Perforating Nasal Ulcers in Gunpowder Factory Workers.

At the Congrès Français d'Otorhinolaryngologie M. Robert Leroux drew attention recently to the perforating nasal ulcer that occurs in powder workers This ulcer is found on the cartilaginous portion of the septum in many workers in powder factories. The author noted two kinds of ulcers—one caused by black powder, composed of saltpetre, carbon, and sulphur; the other by the pyroxyline powder of type J, made of gun-cotton with 17 per cent. of the bichromates of ammonium and potassium. The first acts after the fashion of common powders with carbon and saltpetre—viz., by inflicting microscopic traumatisms, but on a mucosa previously irritated by sulphurous compounds; the other, by the action of the chromates, produces an ulcer through nerve injury. The evolution of the perforating ulcer of powder workers occurs in three stages: the formation of xanthosis, a dirty, yellow state of the mucosa from internal hæmorrhages, formation of an ulcer; and perforation. The perforation due to black powder requires many months for completion, while that due to powder J may be complete in eight days. A few crusts and blood-clots are rarely taken notice of. The perforating ulcer is painless, and must be intentionally looked for. The preventive measures recommended are the wearing of a mask and the limitation of working hours. Treatment lies in neutralising the chromic salts.

June 3rd.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Quinine in Scarlet Fever.

AT the meeting of the Royal Academy of Medical Sciences of Palérmo on April 26th some interesting observations on this subject were brought forward. During the antimalarial campaign of the Croce Rossa in Sicily last autumn there was an epidemic of scarlet fever in the neighbourhood of Marsala. It was observed that the districts under the care of the officers of the Croce Rossa were exempt from this epidemic, though they only differed from the surrounding districts in the fact that their population was under the influence of quinine administered regularly for prophylaxis against malaria In view of the theory of the protozoal origin of the infection of scarlet fever, during another epidemic in the spring of this year at Palermo, a certain number of cases were treated by injections of bichloride of quinine in large doses. The cases were few in number, but for the most part of a certain gravity, and in all of them the injections seemed to cut short the disease. The fever yielded to the second or third injection, desquamation appeared quickly, and the patients were very soon well.

A New Tuberculosis Cure.

Professor Alessandro Bruschettini, of Geneva, presented a communication to the University of Parma in the amphitheatre of the Clinica Medica on May 17th on the subject of a new cure for tuberculosis. This is a so-called "vaccino serum," of which he described the method of preparation. He claims to have obtained such wonderful results in the cure of hundreds of cases of the various forms of tuberculosis that it may be fairly considered a sure and specific cure. He proposes to make an announcement on the subject at the forthcoming International Congress of Medicine in London.

A Professor of Pathology and the Waters of Lourdes.

Professional circles in Genoa have recently been agitated by the publication in the "Journal of the Grotto" of Lourdes of a testimonial written by a member of their University. Dr. Luigi della Valle, professor of surgical pathology in the University of Genoa and surgeon to the hospital, accompanied his wife, whose illness professional skill had failed to cure, to Lourdes last autumn. The effects of the waters corresponded promptly to the lady's hopes and prayers, and in recognition of this her husband was persuaded to sign the following declaration: "I, the undersigned, certify that in the month of September, 1912, my wife, who was seriously ill in consequence of a typhoid infection, complicated by intestinal obstruction, refractory to ordinary therapeutic measures, was in danger of imminent death. She experienced the first symptom of improvement immediately after swallowing a few draughts of the miraculous water of Our Lady of Lourdes, this act of faith being accompanied by the prayers of the patient and of the members of her family. I make this attestation in token of gratitude towards Our Lady of Lourdes." The declaration appears in the *Journal de la Grotte* of May 4th, with the doctor's signature and academic titles, though the doctor had signed it merely as doctor of medicine, and had been under the impression that the declaration would remain private. In Italy, where the antagonism between science and superstition is more bitter possibly than anywhere else in Europe, it is natural that the publication of this document should have aroused much resentment in the scientific circles affected.

May 30th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Vienna Volunteer First-aid Association.

THE First-aid Congress to be held in this city next September has been organised chiefly by the exertions of the well-known Vienna Volunteer First-aid Association, called here the Freiwillige Rettungsgesellschaft, the annual report of which for the year 1912 has just been published. During that year a very great amount of work was accomplished. The number of cases which received attention amounted to held in honour of this congress, the Society of Legal Medicine was attended by most of the members of the Congress. The programme included the means of checking the use of narcotic drugs (opium, morphine, cocaine, ether, haschisch) which now constitutes a social danger. Maître Rocher and M. Régis, M. Vallon, and M. Lacassagne spoke, after which M. Bertillon demonstrated the latest advances in judicial photographometry, and M. Ménard discussed errors of interpretation in radiography.

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Sanitary Association and have the necessary approval of the Government of Bombay, who are large contributors to the cost of the new institute Some £1400 is still required if the work of building is to be started free of debt, but the association confidently anticipate that this will speedily be forthcoming, and it is hoped that the foundation stone of the building will be laid by His Excellency the Governor at an early date

Fifty Lakhs for Charity

It is announced in Bombay that a Parsi gentleman, whose name is not disclosed, is arranging to make a charity trust of 50 lakhs of rupees It is stated that he will give effect to his wishes in a short time, and that the administration of the charity will remain under his supervision during his lifetime

The Vicereine and Indian Hospitals

Her Excellency the Lady Hardinge has decided to devote the money that has been placed at her disposal as a thank offering for the Viceroy s recovery to giving an annual treat to children in hospitals on the Viceroy s birthday June 20th will therefore be kept as a "Children's Day" throughout our Indian hospitals Lady Hardinge has also been making a round of the Simla hospitals A few days ago Her Excellency visited the Station Hospital and Station Family Hospital at the important military suburb at Jutogh The Viceregal party were conducted round the hospitals by the senior medical officer, Major R J Blackham, V H S Her Excellency was much interested in what she saw, and promised her assistance in carrying out various projected improvements

Combating Disease in Mysore

The Government of Mysore has just issued an order prohibiting the erection of temporary sheds and huts on Government agricultural land near railway stations with a view to preventing the spread of epidemic diseases, and directing the removal of such sheds or huts on private land where necessary

Rice Cultivation Prohibited

It is notified in the current *Punjab Gazette* that the cultivation of rice crops is prohibited in the neighbourhood of Muzzafagarh, as being injurious to the health of persons dwelling in the neighbourhood, and as being likely to contaminate the water-supply of the municipality

The Sanitation of Madras

Owing to the defective sanitary arrangements in Madras the death rate is said to have been steadily increasing during the last 40 years The existing drainage system consists of open side drains, masonry drains, and pipe drains The open drains are insanitary, the masonry drains are leaky and defective and the pipe drains are inefficient, rendering the whole system a menace to the inhabitants

The Mysteries of Plague

A Bombay newspaper says that one of the mysteries of plague has always been the reason why the incidence of epidemics is so much heavier in some places than in others In the last two years the special point of inquiry has been why the United Provinces should suffer as severely as they do, and particularly so at a time when other parts of India are feeling a general lightening of the burden Madras has always escaped easily One theory put forward regarding Madras was that the mongoose was very prevalent there and kept down the numbers of the plague rat Madras sanitarians, of course, attach much credit to their special passport system of guarding against imported contagion The advisory committee in India have recently published a report of a special inquiry made in Madras on the subject The document may fairly be summed up as saying that Madras has the conditions that go to make a bad plague centre, but that why the ordinary results do not follow is more than the experts can say The inquiry is now to be pursued outside Madras city into various parts of the Presidency, where the same comparative freedom from plague exists but is equally difficult to explain

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[illegible] St Thomas s Hospital [illegible] Hill St Bartholomew s Hospital Harold William Hills B Sc and Robert Lister Horton, University College Hospital *Charlotte Grace* Judge London (Royal Free Hospital) School of Medicine for Women Skene Keith Guy s Hospital Francis Harry Kelly, Middlesex Hospital, Charles Dones Killpack Guy s Hospital,

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N B —This list published for the convenience of candidates, is issued subject to its approval by the Senate

FOREIGN UNIVERSITY INTELLIGENCE —*Berlin* The eminent dentist, Dr Paul Ritter who is also well known as a scientific investigator and also as a municipal reformer, has been granted the title of Professor —*Berne* Dr E Landau has been recognised as *privat docent* of Anatomy —*Bordeaux* Dr Abadie has been appointed Professor *agregé* of Mental Diseases, Dr Aubaret Professor *agrégé* of Ophthalmology, and Dr Réchon Professor *agrégé* of Biological and Medical Physics —*Budapest* Dr M Goldzieher has been recognised as *privat docent* of Pathological Anatomy and Dr K L Lang as *privat docent* of Rhinology —*Danzig*
of Practical Medicin
Dusseldorf —*Dresden*
has been recognised as *privat docent* of Bacteriology —*Hamburg* An important and well equipped electric light department has been established in connexion with the Eppendorf Hospital There are 25 beds and arrangements for the treatment of 100 out patients for lupus daily The director is Dr Wichmann —*Jena* Dr J Lange has been recognised as *privat docent* of Otology —*Kiel* Dr E Koujetzny has been recognised as *privat docent* of Surgery —*Limoges* Dr Duverger has been appointed Assistant Professor of Anatomy and Physiology —*Montpellier* Dr Delmas has been appointed Professor *agrégé* of Anatomy and Embryology —*Toulouse* Dr Picqué has been appointed Professor *agrégé* of Anatomy and Embryology, and Dr. Escande Professor *agrégé* of Biological and Medical Physics —*Vienna* Dr E Abderhalden, Professor of Physiology in Halle has been offered and has accepted the chair of Medical Chemistry, in succession to Dr E Ludwig, who is retiring

DONATIONS AND BEQUESTS —The late Mr. Augustine Knocker, of Clifton, left £100 to each of the following institutions Bristol General Hospital, Royal Infirmary, Children's Hospital, Eye Hospital, and Blind

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Dobrashian,
nond Guy's
l Alexander
cher London
s Hospital,
bert Francis

Hebbert St Thomas s Hospital [illegible] Hill St Bartholomew s Hospital Harold William Hills B Sc and Robert Lister Horton, University College Hospital Charlotte Grace Judge London (Royal Free Hospital) School of Medicine for Women Skene Keith Guy s Hospital Francis Harry Kelly, Middlesex Hospital, Charles Dones Killpack Guy s Hospital,

Hospital

N B —This list published for the convenience of candidates, is issued subject to its approval by the Senate

FOREIGN UNIVERSITY INTELLIGENCE —*Berlin* The eminent dentist, Dr Paul Ritter who is also well known as a scientific investigator and also as a municipal reformer, has been granted the title of Professor —*Berne* Dr E Landau has been recognised as *privat docent* of Anatomy —*Bordeaux* Dr Abadie has been appointed Professor *agregé* of Mental Diseases, Dr Aubaret Professor *agrégé* of Ophthalmology, and Dr Réchon Professor *agrégé* of Biological and Medical Physics —*Budapest* Dr M Goldzieher has been recognised as *privat docent* of Pathological Anatomy and Dr K L Lang as *privat docent* of Rhinology —*Danzig*
of Practical Medicin
Dusseldorf —*Dresden*
has been recognised as *privat docent* of Bacteriology —*Hamburg* An important and well equipped electric light department has been established in connexion with the Eppendorf Hospital There are 25 beds and arrangements for the treatment of 100 out patients for lupus daily The director is Dr Wichmann —*Jena* Dr J Lange has been recognised as *privat docent* of Otology —*Kiel* Dr E Koujetzny has been recognised as *privat docent* of Surgery —*Limoges* Dr Duverger has been appointed Assistant Professor of Anatomy and Physiology —*Montpellier* Dr Delmas has been appointed Professor *agrégé* of Anatomy and Embryology —*Toulouse* Dr Picqué has been appointed Professor *agrégé* of Anatomy and Embryology, and Dr. Escande Professor *agrégé* of Biological and Medical Physics —*Vienna* Dr E Abderhalden, Professor of Physiology in Halle has been offered and has accepted the chair of Medical Chemistry, in succession to Dr E Ludwig, who is retiring

DONATIONS AND BEQUESTS —The late Mr. Augustine Knocker, of Clifton, left £100 to each of the following institutions Bristol General Hospital, Royal Infirmary, Children's Hospital, Eye Hospital, and Blind an attractive feature for medical men. The Red Cross Society hospital, near the West Kensington entrance, contains much of interest and was very near completion—opposite to it, on a railway siding, was a hospital train, equipped with spring cots (fixe[illegible] accommodation for the staff. [illegible] until the medical portion [illegible] advanced and the various stalls and displays of drill and so forth can be described.

FOURTH INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.—This Congress will be held at Buffalo, U.S A., next August. The organising committee for Great Britain and Ireland is under the presidency of Sir Lauder Brunton. The honorary secretaries are Dr. James Kerr and Mr. E. White Wallis, to whom communications may be addressed at 90, Buckingham Palace-road, London, S W. The Congress will last from August 25th to 30th. It will be under the patronage of the President of the United States, Dr. Woodrow Wilson.

INTERNATIONAL COMMITTEE FOR POST-GRADUATE MEDICAL EDUCATION.—A series of lecture courses on the Progress of Practical Medicine will be given in Berlin by the Lecturers' Association for Medical Vacation Courses from June 19th to 28th, in collaboration with the Central Committee for Medical Post-Graduate Education in Prussia. Foreign practitioners are also entitled to participate. Applications should be sent to the Bureau of the Lecturers' Organisation for Medical Vacation Courses (Mr. H. Melzer, Berlin N.24, Ziegelstr. 10/11). Inquiries will be answered by the Bureau of the Lecturers' Organisation and by the Medical Information Bureau of the Kaiserin Friedrich-Haus (Berlin N.W. 6, Luisenplatz 2-4).

THE RANKING MEMORIAL.—It has been decided that the memorial to Dr. J. E. Ranking, who did so much towards the relief of the sick and suffering poor of Tunbridge Wells, shall take the form of the endowment of a bed in the General Hospital at Tunbridge Wells, in which Dr. Ranking was specially interested and of which he was senior physician. The public appeal for subscriptions to provide some suitable memorial met with such a ready and willing response that a sum of £1273 15*s.* 8*d.* was collected in amounts varying from ¼*d.* to 100 guineas. The sum of £1000 has been set aside for the endowment of the bed, and the balance will be devoted to providing a medallion at the hospital, to be placed over the bed, the sum then remaining to be given to the Samaritan Fund.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on May 22nd, with Sir Francis H. Champneys in the chair. A letter was considered from the clerk of the Bedfordshire county council suggesting that the rules should be amended so as to entail an obligation on the midwife to advise medical assistance in any case in which the patient's temperature rises to above 100° F. in the morning on two successive days The Board directed that the clerk of the Bedfordshire county council be informed that his suggestion will be noted for consideration at the next revision of the rules. A letter was considered from the medical officer of health for the county of Durham asking the opinion of the Board as to whether an uncertified person attending a woman in her confinement in company with a registered medical practitioner, and afterwards alone attending the mother for ten days without supervision from the medical practitioner, is guilty of an offence under Section 1 (2) of the Midwives Act, 1902. The Board decided that the medical officer of health for the county of Durham be informed that under the circumstances described by him the uncertified woman appears to have acted as a monthly nurse and not as a midwife. A letter was considered from the clerk of the Hants county council calling the attention of the Board to the system adopted by a midwife approved by the Board for training pupils in sending a pupil to act as her substitute in nursing a patient after her confinement. The Board directed that the clerk of the Hants county council be informed that the Board has carefully considered the facts as stated in his letter, but it does not think that they prove that the midwife did not exercise adequate supervision, nor that the pupil was acting as an uncertified midwife.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Liverpool Corporation Bill.

SEVERAL important clauses rel[illegible] Liverpool Corporation Bill have [illegible] Committee of the House of Com[illegible] of health, gave evidence supporting these provisions. One of the clauses accepted by the committee extended the powers of the officers of the health committee to take samples of food in storage, and another prohibited the sale of inedible fats as foods. A proposal which the committee passed related to the removal of persons suffering from pulmonary tuberculosis to hospital if the lodging or accommodation available for them was such that proper precautions could not be taken to prevent the spread of infection. The removal could only be made on the order of a court of summary jurisdiction, and the clause was to remain in force for three years. Dr. HOPE remarked that its object was to deal with homeless wanderers. Under another clause it was forbidden to bring live rats ashore from ships except for the purposes of examination by the city bacteriologist. This step was taken to safeguard the port from the infection of plague, which rats conveyed. At the suggestion of the Home Office a new clause was submitted prohibiting the keepers of common lodging-houses from receiving persons suffering from trachoma or other contagious disease of the eye. Subject to the report of the Local Government Board the committee intimated that it would accept this proposal.

Amendment of the National Insurance Act.

Details of the Bill which the Government will introduce to amend the National Insurance Act are in the meantime strictly withheld. However, it is stated that the measure will be of wider scope than was contemplated some time ago, and that its discussion is likely to cover three or four Parliamentary weeks.

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Petitions to the House of Commons have been presented by the Royal Sanitary Institute in favour of the Daylight Saving Bill, the Death Registration and Burials Bill, the Elementary Education (Defective and Epileptic Children) Bill, the Mental Deficiency Bill, the Milk and Dairies Bill, and the Milk and Dairies (Scotland) Bill.

Voluntary Contributions under the National Insurance Act.

It is stated by Mr. MASTERMAN that the number of voluntary contributions under the Insurance Act is only 20,500 [illegible]

HOUSE OF COMMONS.

WEDNESDAY, MAY 28TH.

The New Medical Officer of Health of the City of London.

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Sight Tests in the Mercantile Marine.

Mr. PETO asked the President of the Board of Trade whether his attention had been drawn to a memorial signed by 30 leading ophthalmologists who were of opinion that the sight tests of the Board of Trade were not satisfactory; and, if so, whether he would now reconsider the whole question of these tests.—Mr. BUXTON replied: My attention has been drawn to a statement published in a medical journal to which the honourable Member presumably refers. Careful consideration will be given to these and any other criticisms, but as at present advised I do not think that they disclose any sufficient ground for reopening the question of the tests.

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WEDNESDAY, JUNE 4TH.

Sickness Experience of Friendly Societies.

[illegible]

BOOKS, ETC., RECEIVED.

[illegible]

BAILLIÈRE, J. B., ET FILS, Paris.

Le [illegible] Fascicules sous la direction de A. Le Dentu et Pierre Delbet. XXI. Maladies du Cou. Par Joseph Arrou, Pierre Fredet, et Ernest Desmarest, Chirurgiens des Hôpitaux de Paris. Price, paper, Fr.4; boards, Fr.5 50.

BLACK, ADAM AND CHARLES, London.

The Social Guide, 1913. Edited by Mrs Hugh Adams and Edith A. Browne. Fourth Year of Issue. Price 2*s.* 6*d.* net.

COLLINS, WILLIAM, SONS, AND CO., LIMITED, Bridewell place, New [illegible] Cathedral street, Glasgow.

[illegible] net.

[illegible] the Osborne Judgment.

Industrial Germany. By William Harbutt Dawson.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.

A Manual of Venereal Diseases. Introduction by Sir Alfred Keogh, K.C.B. History, Statistics, Invaliding, &c., by Brevet-Colonel C. H. Melvill [illegible]

HIRSCHWALD, AUGUST, Berlin.

D [illegible] Seine [illegible]

LEHMANN, J. F., München.

[illegible] Gesammelt und mit einer Vorrede [illegible] on Prof. Paul Ehrlich, [illegible] ts fur experimentelle [illegible] bound, M.12.

[illegible] Price 25*s.* net.

The Diseases of Children. A Work for the Practising Physician. [illegible] Professor of Children's Diseases, and [illegible] Munich; [illegible] volumes.

LONGMANS, GREEN, AND CO., London, New York, Bombay, and Calcutta.

Primary Artisan Education. By W. P. Welpton, B.Sc., Lecturer in Education and Master of Method in the University of Leeds. Price 3*s.* 6*d.* net.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.

Th[illegible] Price 30*s.* net.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton street, Strand, London, W.C.

Bandaging Made Easy. By M. R. Hosking, Sister in Charge, Tredegar House, Bow, E. Price 1*s.* net.

How to Read and Write Prescriptions. A Pocket Guide for Nurses, Students, and Dispensers. By Lytton Maitland, M.D. Lond., B.S., D.P.H. Camb. Price 1*s.* net.

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URBAN UND SCHWARZENBERG, Berlin und Wien.

Die Störungen der männlichen Geschlechtsfunktionen und ihre Behandlung. Von Dr. Emil Kantorowicz, Arzt. Price, bound, M.3.

For[illegible] Herausg[illegible] des Physiolo[illegible] achter Band. [illegible] phil. et med. [illegible] Montenegro entsandten Mission des Oesterreichischen Roten Kreuzes. Price M.3.

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Appointments.

Suc[illegible]

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[illegible] Guardians.

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EVA[illegible]

FIN[illegible]

GA[illegible] appointed [illegible]

GO[illegible] Surgeon- [illegible] British Guiana.

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[illegible] nt House Surgeon. [illegible] d washing. [illegible] House Surgeon for [illegible] m, with board and residence. Also Clinical Assistants.

ROYAL FREE HOSPITAL, Gray's Inn road, W.C.—Female Assistant to [illegible] t Anæsthetist. Salary [illegible]

[illegible] r, City-road, London. [illegible] ths. Salary at rate of [illegible] shing.

[illegible] WOMEN, S E.—Senior [illegible] £70 per annum, with board and washing.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E — Assistant Resident Medical Officer, unmarried, for six months. Salary at rate of £30 per annum, with board, residence, and laundry.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board, residence, and laundry.

SHE [illegible]

SHP [illegible] laundry, &c.

SOUTHAMPTON, COUNTY BOROUGH OF.—Assistant Medical Officer of Health. *Salary £200 per annum, with residence, board, and washing*

SOUTHAMPTON, FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with rooms, board, and washing.

SOUTH LONDON HOSPITAL FOR WOMEN.—Medical Woman to take charge of X Ray Department.

[illegible] WESTON [illegible], with [illegible] ector.

[illegible] Resident [illegible] Surgeons.

WEST END H[illegible] **PARALYSIS**, [illegible]

[illegible] SARY.—Tuberculosis [illegible] unmarried. Salary [illegible] Assistant Medical [illegible] HOSPITAL.—House [illegible] rooms, and laundry. [illegible] ician. Salary £100 [illegible] Assistant Medical [illegible], apartments, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

MACNAUGHTON-JONES.—On May 30th, at Fontenoy, Finchley-road, N.W., to Dr. and Mrs. Macnaughton-Jones, a son.

[illegible] ford, Chantry-lane, Grimsby, to [illegible], a daughter.

[illegible] the wife of William Lochhead [illegible] M.D., of a son.

MARRIAGES.

[illegible] Parish Church, by the [illegible] and Lady Whittaker.

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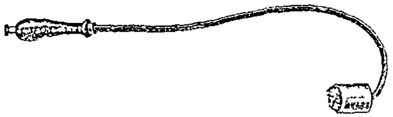

A. ST. CLAIR BUXTON, F.R.C.S. Edin.,
Consulting Surgeon to the Western Ophthalmic Hospital.
Weymouth-street, W , May 28th, 1913

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House Surgeon for
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residence. Also Clinical Assistants.

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Surgeons.

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PARALYSIS,

ARY.—Tuberculosis
unmarried. Salary
Assistant Medical
HOSPITAL.—House
rooms, and laundry.
ician. Salary £100
Assistant Medical
, apartments, washing, and attendance.

Births, Marriages, and Deaths.

BIRTHS.

MACNAUGHTON-JONES.—On May 30th, at Fontenoy, Finchley-road, N.W., to Dr. and Mrs. Macnaughton-Jones, a son.

ford, Chantry-lane, Grimsby, to
, a daughter.
the wife of William Lochhead
Scott, M.D., of a son.

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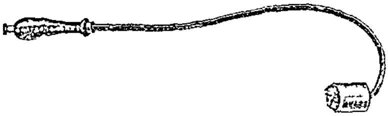

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ABSTRACT OF

A Lecture

ON THE

RELATION OF SO-CALLED "INFLUENZA" TO BRONCHITIS AND TUBERCULOSIS.

Delivered at the Medical Graduates' College and Polyclinic on May 26th, 1913,

By A. J. JEX-BLAKE, M.A., M.B., B.Ch. Oxon., F.R.C.P. Lond.,
ASSISTANT PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE HOSPITAL FOR CONSUMPTION, BROMPTON.

In the out-patient department of the Brompton Hospital for Consumption one is often struck by the frequency with which the patients volunteer a history of having had one or more attacks of what they call "influenza." They are, of course, using the term in a purely popularly clinical sense, and without attaching any strict scientific meaning to it, much less any bacteriological interpretation. So far as I can understand, a patient who tells you he has had "influenza" merely implies that he has had a particularly severe and acute cold, cough, or sore-throat; with such signs and symptoms as running at the eyes, severe headache, pains in the back and limbs, loss of appetite, sleeplessness, and almost always with a deal of muscular weakness and prostration during the attack. All these are symptoms highly characteristic of the attacks of true influenza, and were habitually met with in the epidemics of influenza that raged through Europe 20 years ago and more—from 1889 to 1893. Hence there is no doubt that from the clinical point of view the patient who has these symptoms and diagnoses his case as one of influenza is not without some practical justification. But one would like to know how far such a patient is correct in his diagnosis from a medical point of view. Accordingly during the last three or four years I have been making inquiries into the past histories of out-patients at the Brompton Hospital to see if they would throw any light on the meaning of the word "influenza" as ordinary people like the patients use it. I think I shall be able to show you that in a great many cases an attack of "influenza" means an attack of acute bronchitis due to infection with some microbe other than the Bacillus influenzæ, and that in many more "influenza" really means an acute tuberculous infection of the lungs. It appears to be unlikely that more than a few of these attacks of "influenza" are caused by the Bacillus influenzæ, or are to be spoken of as influenzal from the bacteriological point of view.

Diagnosis of Influenza.

Before going further it would perhaps be as well to attempt some definition of what does constitute and is diagnostic in an attack of real influenza. One might think that this would be an easy thing to do, but it is not; for there seem to be no definite criteria by which influenza can be either diagnosed or excluded infallibly. As regards its diagnosis, that may be attempted on three separate lines—the epidemic, the bacteriological, and the clinical; and it is best to consider these three lines of diagnosis separately. Whenever, as has often happened in the past and as still happens occasionally, influenza occurs in *epidemics* and the influenza bacillus can be demonstrated in the discharges from the patients' noses, throats, or bronchi, the diagnosis is easy and obvious, because it [illegible] is an epidemic disease, [illegible] presenting a great va[illegible] certain features in common. The chief of these are a sudden onset, great prostration and weakness, irregular fever, and catarrh of some part of the respiratory tract. The result is that when influenza is about in epidemic form experience proves that it can be diagnosed satisfactorily on clinical grounds in most cases, and without having recourse to the bacteriological examination of the discharges from the patients' noses or bronchi, or of swabs taken from their throats. But when one comes to the diagnosis of influenza occurring sporadically, of influenza that is endemic and not epidemic, the case is quite different, for here the epidemic character of influenza, that is recognised as so important from the diagnostic point of view, is absent. Hence the diagnosis must here be made on bacteriological and clinical grounds; and, unfortunately, the ground in both these [illegible] influenza first. The Bacillus [illegible] be the cause of influenza by Pfeiffer in 1892, towards the end of the very severe and widespread pandemic of influenza that went on from 1889 to 1893. This bacillus was universally recognised as the cause of influenza in that pandemic, and also in a succession of smaller epidemics that continued to occur at intervals in England and Europe during the last years of the nineteenth century. But during the last 10 or 12 years only a few small epidemics of influenza [illegible] Kolle and Hetsch, the [illegible] in many countries, so [illegible] on the closeness and the necessity of its connexion with what the clinician terms influenza. Again, sporadic attacks of influenza with an exact clinical resemblance to the attacks of influenza seen in the epidemics of 20 years ago still occur, but often without the presence of Pfeiffer's bacillus. For example, Jochmann examined 36 sporadic cases of influenza in 1904–05 and could find Pfeiffer's bacillus present in only 13 of them. In the same way Ruhemann in 1905 could find the bacillus influenzæ in only 36 out of 73 cases diagnosed clinically as influenza.

The endemic form of influenza, therefore, seems to differ from the epidemic form in two important particulars; in the first place, it is sporadic, and therefore far less contagious than the epidemic form; and in the second place, it is associated with Pfeiffer's bacillus in perhaps less than half the cases, so that it has been held that other microbes may be the infecting agents in sporadic influenza. Baumgarten indicates the differences between epidemic and sporadic influenza by comparing them to epidemic (Asiatic) cholera and cholera nostras respectively. Hence it may be argued, from the clinical and from the bacteriological points of view, that the absence of Pfeiffer's bacillus does not disprove the diagnosis of influenza.

The next diagnostic difficulty is this—that the influenza bacillus may be present for years in the sputa of patients who have had influenza, but who no longer show any symptoms of the disease and also are not sources of infection for other people. Thus, Lord, of Boston, in 1902 reported 18 chronic cases of influenzal bronchitis, in which the abundant and purulent sputum continued to contain the bacillus of influenza, and in 8 the same microbe was present in almost pure culture two and a half years later. Wohlwill made bacteriological examinations of the contents of phthisical cavities in 73 cases post mortem, and isolated Pfeiffer's bacillus from 16 of them; in 9 it was present in pure culture. Hence it is argued that in certain cases the presence of the Bacillus influenzæ in a patient's sputum does not necessarily prove that he is suffering from influenza; the [illegible]tum simply as a saprophyte. [illegible] in 1893, "Wo Influenza- [illegible]iven up entirely.

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ABSTRACT OF

A Lecture

ON THE

RELATION OF SO-CALLED "INFLUENZA" TO BRONCHITIS AND TUBERCULOSIS.

Delivered at the Medical Graduates' College and Polyclinic on May 26th, 1913,

BY A. J. JEX-BLAKE, M.A., M.B., B.CH. OXON., F.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE HOSPITAL FOR CONSUMPTION, BROMPTON.

IN the out-patient department of the Brompton Hospital for Consumption one is often struck by the frequency with which the patients volunteer a history of having had one or more attacks of what they call "influenza." They are, of course, using the term in a purely popularly clinical sense, and without attaching any strict scientific meaning to it, much less any bacteriological interpretation. So far as I can understand, a patient who tells you he has had "influenza" merely implies that he has had a particularly severe and acute cold, cough, or sore-throat; with such signs and symptoms as running at the eyes, severe headache, pains in the back and limbs, loss of appetite, sleeplessness, and almost always with a deal of muscular weakness and prostration during the attack. All these are symptoms highly characteristic of the attacks of true influenza, and were habitually met with in the epidemics of influenza that raged through Europe 20 years ago and more—from 1889 to 1893. Hence there is no doubt that from the clinical point of view the patient who has these symptoms and diagnoses his case as one of influenza is not without some practical justification. But one would like to know how far such a patient is correct in his diagnosis from a medical point of view. Accordingly during the last three or four years I have been making inquiries into the past histories of out-patients at the Brompton Hospital to see if they would throw any light on the meaning of the word "influenza" as ordinary people like the patients use it. I think I shall be able to show you that in a great many cases an attack of "influenza" means an attack of acute bronchitis due to infection with some microbe other than the *Bacillus influenzæ*, and that in many more "influenza" really means an acute tuberculous infection of the lungs. It appears to be unlikely that more than a few of these attacks of "influenza" are caused by the Bacillus influenzæ, or are to be spoken of as influenzal from the bacteriological point of view.

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Group I.

The 112 patients of Series (1) came to the hospital with pulmonary tuberculosis that they dated from a definite attack of "influenza"; the attack occurred two years previously, or less, in 98 instances, and from two to seven years previously in the remaining 14. There can be no doubt, to my mind, that in the majority of these 112 persons the microbe responsible for the initial attack of "influenza" was the Bacillus tuberculosis, and the illness itself acute tuberculosis of the lungs and not influenza at all. I do not overlook the connexion that exists between influenza and tuberculosis, and the fact that the mortality due to phthisis increases during an epidemic of influenza and is lowered afterwards. It is very generally stated and believed that influenza predisposes to tuberculosis of the lungs; but I think that the figures shown in Series (1), (2), and (3) make it more reasonable to suppose that, as things actually are, influenza often *is* tuberculosis, rather than that influenza *predisposes to it*.

To consider next the cases in Series (2). This contains 122 patients who said they had had one or several attacks of "influenza" at a time subsequent to the probable onset of their pulmonary tuberculosis. The weak point of these statistics is, of course, the fact that they depend so largely on the word and memory of the patients, and not on facts observed and properly recorded at the time of their occurrence. In only a few instances did these intercurrent attacks of "influenza" occur while the patient was under my own observation, and then they were so severe that the patient was too ill to make the journey up to hospital and be examined. Hence it is not possible for me to say what new physical signs they developed during the "influenza." But if one may argue from analogous cases that one sees among tuberculous in-patients, one would expect to find that the "influenza" was associated either with a superadded attack of general bronchitis and the development of adventitious sounds all over the lungs and an increase in the sputum, or with physical signs indicating a sudden spread of the tuberculous disease in the lungs. In either case the patient becomes feverish, or more feverish than he was before, suffers from headache and pains all over as he is apt to do in any acute infection of the respiratory tract, feels much prostrated, and diagnoses his case as one of "influenza."

In Series (3) are the cases that may belong properly to either Series (1) or Series (2), but in which the facts available were insufficient to decide where to place them. In each of these Series (2) and (3) occur a certain number of patients, perhaps a sixth part of them all, who had bronchitis or bronchitis with emphysema, as well as tuberculosis of the lungs.

Undoubtedly, as I have already said, the bacterial cause of the "influenza" in these 416 tuberculous patients would generally be the Bacillus tuberculosis. But it must be remembered that this bacillus is not by any means the only one commonly present in the sputum of phthisical patients. This is shown in the following extract from Inman's work of 1911. Inman prepared cultures from the sputa of 101 patients with open pulmonary tuberculosis, and recovered the following bacteria from them: the Bacillus tuberculosis in all the 101 cases, the pneumococcus in 88, Micrococcus catarrhalis in 19, a staphylococcus in 16, Friedländer's bacillus in 6 and a streptococcus in 6. It is clear, therefore, that the tubercle bacillus is not the only one that may be responsible for attacks of "influenza" in phthisical patients.

Out of 416 patients with pulmonary tuberculosis who answered inquiries as to "influenza" only 152 had never had it. These cases are shown in Series (4), and the extent of their pulmonary disease is roughly indicated by their division into three classes—early cases, advanced, and very far advanced. Now if it is true, as I have been suggesting, that many cases of "influenza" are really instances of acute tuberculous infection or re-infection, it is clear that the longer a case of pulmonary tuberculosis goes on the more likely is it to develop [illegible] be the case that the 31 [illegible] (4) should turn out to [illegible] short duration of the l[illegible] fact, most of them are. One patient had been ill for five years, two for three, one for two years; the remaining 27 averaged only eight months apiece from the first symptom of their pulmonary tuberculosis to the day when they told me they had never had "influenza."

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In Series (7) are three patients with extensive fibrosis of one lung that appears not to be tuberculous in origin. In each case the pulmonary disease was said to originate with "influenza." I have notes of ten cases of pleural effusion in patients coming up to hospital with a complaint of "influenza"—nothing being volunteered on the subject of pain in the side or pleurisy—and I think it very likely that pleurisy, with or without effusion, followed by the establishment of pleural adhesions and slow consequent pulmonary fibrosis, should have been the diagnosis in these three cases of "influenza."

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the nature of gout, and of what should and should not be suitable foods for those who suffer from its attacks There can be little doubt that in their main features the current tenets as to the dietetic treatment of gout rest upon a sound basis, but many details of advice which are given could with difficulty be defended in argument How insecure is the footing of many of them is shown by their great diversity. Hardly an article of diet can be mentioned which someone will not be found to forbid

In the dietetic, as in so many other fields, "a little knowledge is a dangerous thing" Our endeavours to help the sufferers from this or that malady by advising them what they should eat, drink, and avoid, may hinder rather than help unless we go very cautiously The conspicuous symptoms are not always the most important, and we sometimes mistake for morbid symptoms Nature's efforts to counteract the processes of disease For example how much harm may be done to sufferers from diabetes if attention be concentrated upon their glycosuria to the neglect of the attendant derangement of metabolism which gives rise to acetonæmia and acidosis. I would even venture to express a doubt whether the painstaking efforts of generations of medical men to devise a suitable dietary for their gouty patients, mainly by elimination of articles of diet some of which are possessed of high nutrient value, have not on the whole done more harm than good, and this not so much to the gouty as to sufferers from other chronic diseases of joints, mostly of bacterial origin These are often subjected to similar dietetic restrictions which for them are undesirable or actually harmful Perhaps this is more often the case in my own country, where gout is so prevalent in all classes of the community, a
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In spite of the warnings of many recent writers, and of the complete *bouleversement* which our notions about articular maladies are undergoing, it seems well nigh impossible to eradicate this so tenaciously held superstition It had its origin at a time when little progress had been made in the differentiation of such diseases, and although the dividing line between gouty arthritis and arthritis of other natures is becoming fairly well defined we are still far from being able to mark out the boundaries of gout Eczema, lumbago, and sciatica form, with the joint troubles, a sufficiently definite symptom complex, but symptoms are freely labelled as gouty, by profession and public alike which can hardly lay claim to a place in this clinical picture, and of which the relationships to true gout are at best very shadowy These include lesions of the teeth, throat, eyes, and many other organs—indeed, a host of morbid symptoms which are apt to manifest themselves in the middle aged and elderly as products of the wear and tear of life

The members of one school among us, of which Dr A Haig is the protagonist, would extend the connotation of gout to include a large proportion of the ills of humanity, regard uric acid as the underlying cause of all the morbid states included, and a purin free diet as the sovereign preventive of them I would range myself with those who take a much narrower view of the range of gout, and would restrict the name to morbid conditions which stand in an obvious clinical relationship to genuine podagra Even if we confine our ideas of gout within such narrow limits we still find ourselves confronted by two more or less distinct therapeutic problems—namely, How best to avert the development of the gouty state, and how to control the active

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There can be no question that throughout history gout has tended to become prevalent amongst peoples who, after periods of stress and struggle, have attained to conditions of material well being, who have aggregated into cities which became the centres of increasing luxury and more elaborate civilisation Thus, in Rome, gout was evidently very prevalent in Imperial times Such documents as the letters of the younger Pliny bear witness to this fact, and, writing of his friend Cornelius Rufus, whose sufferings had driven him to suicide, Pliny tells how in his earlier years he had kept his gout in check by abstemiousness and self restraint, and adds that in this case the disease was hereditary, "for maladies, like other things, are often transmitted in a kind of succession' , probably the earliest extant statement to that effect To Byzantium, again, we owe some of our best remedies for gout

Nowadays England has the unenviable reputation of being the country in which gout is most prevalent Among the wealthier classes this may be attributable in part to traditions of high living and free consumption of protein foods common in such a climate as ours, and to the drinking of the heavier kinds of beers and wines But these cannot be the only causes of the prevalence of gout amongst us Our lower orders certainly live in no conditions of luxury, nor is the consumption of meat amongst them excessive, and yet amongst the poor who apply for treatment in the out patient departments of our London hospitals are many sufferers from gout in its most characteristic forms In Scotland, on the other hand, the disease is rarely seen in hospital patients If this difference between the two peoples inhabiting different parts of the same island and united under the same Crown is to be explained by any dietetic difference, we shall be tempted to ascribe it to the fact that, whereas the Englishman of the labouring class habitually drinks beer, the Scotsman of the same class drinks whisky

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The important part played by heredity in connexion with gout cannot be questioned but it is difficult to reconcile with modern conceptions of the workings of heredity the idea so often expressed that because our ancestors drank freely of port wine their descendants have acquired a liability to the malady It is easier to suppose that what is inherited is a tissue state which renders an individual liable to acquire gout on slight provocation It is an evident fact that one man will develop gout if he deviate but slightly from the optimum course of life, whilst another fails to manifest the disease in spite of continuous and glaring indiscretions of diet and regimen Failing a favourable environment, the tendency latent in a family may not show itself and may remain unsuspected , but the rise of a member of it to easy circumstances may bring it to the surface, the nature of gout, and of what should and should not be suitable foods for those who suffer from its attacks There can be little doubt that in their main features the current tenets as to the dietetic treatment of gout rest upon a sound basis, but many details of advice which are given could with difficulty be defended in argument How insecure is the footing of many of them is shown by their great diversity. Hardly an article of diet can be mentioned which someone will not be found to forbid

In the dietetic, as in so many other fields, "a little knowledge is a dangerous thing" Our endeavours to help the sufferers from this or that malady by advising them what they should eat, drink, and avoid, may hinder rather than help unless we go very cautiously The conspicuous symptoms are not always the most important, and we sometimes mistake for morbid symptoms Nature's efforts to counteract the processes of disease For example how much harm may be done to sufferers from diabetes if attention be concentrated upon their glycosuria to the neglect of the attendant derangement of metabolism which gives rise to acetonæmia and acidosis. I would even venture to express a doubt whether the painstaking efforts of generations of medical men to devise a suitable dietary for their gouty patients, mainly by elimination of articles of diet some of which are possessed of high nutrient value, have not on the whole done more harm than good, and this not so much to the gouty as to sufferers from other chronic diseases of joints, mostly of bacterial origin These are often subjected to similar dietetic restrictions which for them are undesirable or actually harmful Perhaps this is more often the case in my own country, where gout is so prevalent in
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Of all foods, sweetbreads, both pancreas and thymus gland, are the richest in purins. They are often recommended as suitable foods for invalids, including sufferers from gout, presumably because they are soft and easily digested. Dr. A. P. Luff, in a recent article on the treatment of gout, writes as follows: "From Walker Hall's experiments it would appear reasonable to administer sweetbread to gouty patients, since its nuclein portion is only slightly absorbed; for thymus sweetbread contains principally adenin, which is rapidly excreted, and pancreas sweetbread contains mainly guanin, an amino-purin incapable of increasing the urinary purin output and of exerting any injurious effects upon the tissues." Seeing, however, that it has been clearly demonstrated that their administration to a healthy man is followed by a much increased excretion of uric acid, and that this increase has been found to be less pronounced in the case of a gouty subject, it would certainly appear to be advisable to eliminate from the diet foodstuffs which are open to so grave suspicion, and which can so easily be dispensed with. There are cases, indeed, in which free feeding on thymus has appeared to be the direct cause of an attack of gout. If the knowledge which we possess does not justify us in pronouncing sweetbreads to be undesirable food for gouty people, we must admit that we are not yet in a position to give any advice on this subject on scientific, as distinguished from empirical, lines. Strong meat soups, sauces, and gravies, also are contraindicated, on account of the extractives which they contain, and with which they are often fortified.

Of scarcely less importance than the nature and quantity of protein food taken is the manner in which it is cooked. It is generally agreed that twice cooked meat is less digestible, and therefore less suited to gouty people, than that which has not been so treated; and that elaborately made-up dishes rich in extractives, and in the preparation [illegible], should be avoided.

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It should be remembered that a food essentially harmful may be habitually taken in such small quantities that it becomes negligible, whereas another, much less inherently harmful, may do more harm because it is taken freely. Thus, pepper is very rich in oxalate, but it is hardly worth while to forbid it to a sufferer from oxaluria. Some vegetable foodstuffs which are specially palatable, and which are only to be obtained during a short season in each year, are apt to be taken in excess at such times. Asparagus and strawberries may be placed in this class, and if taken sparingly they probably do no appreciable harm. Very many gouty persons are convinced that strawberries are bad for them, and the fact that in some persons they produce urticaria shows that they contain constituents which may be classed as toxic. In spite of Linnæus's testimonial to their value as preventives of gout, I habitually advise my gouty patients to avoid them.

Carbohydrate foods.—In England one of the most firmly rooted impressions on these matters is that sugar is a peculiarly harmful article of diet for gouty people, who, in reply to inquiries as to what they eat, drink, and avoid, usually begin by saying that of course they never touch sugar. Nevertheless, those who eschew sugar often take starch foods freely. It seems clear that the basis of such exclusion is the great tendency of many sweet foods to upset digestion, and although on theoretical grounds carbohydrates should be suitable foods for the gouty, they are certainly unsuitable if taken in excess, and our patients are well advised to partake of sweet dishes sparingly, or not at all. They should take their carbohydrates mainly in the form of bread, potatoes, and milky puddings; and new bread should be avoide[illegible] the other hand, [illegible] man a lump of [illegible] digestible, it must surely be immaterial whether the allowance of carbohydrates be taken in the form of sugar or starch.

Fats.—The third great group of food constituents, the fats, apparently are suitable foods for the gouty, but here again much depends upon the form in which they are taken. The rich browned fat of roast meat is apt to upset digestion, and should be avoided. In certain cases, as when there is a tendency to obesity, the intake both of carbohydrates and fats calls for restriction; and when glycosuria is a symptom a still further limitation of carbohydrates may be necessary. In such circumstances a diet of compromise must be resorted to, adequate in calorie value, and which, although it may not be the optimum diet from any one point of view, is the best that can be devised for the individual patient.

Extreme dietaries.—In special cases extreme dietaries may be of use, as temporary expedients, such as one which aims at the exclusion of all purin substances, or which, like the Salisbury diet, consists almost exclusively of meat. The former may be of service in getting rid of accumulated uric acid, and the latter in checking intestinal fermentation; but, for my own part, I am convinced that no diet which excludes one or more of the main ingredients of human food, or even a minor constituent such as the purins, can be regarded as a desirable one over long periods. Whilst such a regimen, which may be described as eccentric, in the scientific sense of the term, is being followed, the organism is placed under abnormal conditions, and such conditions can hardly be maintained with impunity for an indefinite length of time.

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There is another widely held impression amongst us that hard waters are bad for the gouty, and some authorities, including my teacher Sir Dyce Duckworth hold this view. If they be detrimental, it is probable that they owe their ill effects to their tendency to increase constipation. The tradition on this matter is of no recent development. Scudamore wrote as follows in 1823: "The kind of water denominated hard has always been considered as unfriendly and the recognition of the fact that it is possible to prescribe a diet rich in protein, but at the same time almost free from purins. Their almost complete freedom from purins gives to milk, eggs, and cheese a special claim to be suitable foods for gouty people, and I believe that the less rigid restriction of proteins than was formerly in vogue is for the benefit of our patients.

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TWO CASES OF VEIN-GRAFTING FOR THE MAINTENANCE OF A DIRECT ARTERIAL CIRCULATION.

BY J. HOGARTH PRINGLE, M.B., C.M. EDIN., F.R.C.S. ENG.,
SURGEON TO THE GLASGOW ROYAL INFIRMARY.

THE reports of the two following cases are published as examples of the successful application, in human surgery, of the lessons that have been taught by the splendid work of Carrel in his experimental studies on the surgery of the vascular system. They are not the first cases to be recorded, but I am not aware that any instances of the employment of vascular grafting have been published in Great Britain.

CASE 1: *Popliteal aneurysm treated by excision; restoration of arterial continuity by a vein graft.*—The patient, a man aged 49, was admitted to the Royal Infirmary, Glasgow, on May 1st, 1912, complaining of a "throbbing swelling behind the left knee." He stated that he had had all the infective diseases of childhood, and an attack of rheumatism at the age of 24 years, when he was confined to bed for four weeks. He denied having had syphilis. He was married; his wife had had four children, all of whom were well, and one miscarriage between the second and third labours. He first observed a swelling behind [illegible] his admission to hospital, [illegible] time "about the size of [illegible] pulse." Since then the swelling had enlarged steadily it slowly. There was a history of his having fallen backwards over some scrap-iron, and of striking the back of the left [illegible]

attendant, Dr. W. Campbell, of Springburn, regarding the tumour some three months before he came to hospital, and was then advised by him to seek admission, but did not do so, and continued at his work until April 30th, the day before he came into my ward.

The patient was of medium build; his lungs, liver, and spleen appeared to be normal. The heart was slightly enlarged, and there was a double murmur heard over the aortic area. The left popliteal space was occupied by an oval-shaped swelling which had an expansile pulsation. The skin over it was tense and glazed. A thrill was felt over the tumour, and by auscultation a harsh bruit could be heard over it. The circumference of the two knee-joints, measured at the centre of the patella, was—right knee, 33 cm.; left knee, 36·5 cm. The pulse in the left posterior tibial artery felt at the ankle was sluggish and behind that of the right tibial in point of time. The superficial veins of both limbs up to the knee-joints were decidedly varicose, but those of the right leg were as bad as those of the left. The diagnosis of aneurysm was quite clear. The patient's blood gave a very positive Wassermann's reaction.

On May 16th the aneurysm was excised; it lay external to the popliteal vein and the nerve. The vein was closely adherent to the sac throughout its length and lay deeper than the sac—i.e., nearer the femoral than the superficial aspect of the sac. The sac itself was for the most part empty, but in its proximal portion contained some firm clot, and at this part was [illegible] structures. The artery [illegible] beyond the origin of th[illegible] lines of section being fully two inches; the vessel was clamped first on each side of the sac. I had hoped that it might be possible to attempt an end-to-end anastomosis of the two segments of the vessel; but even with the knee-joint flexed it was not possible to approximate the two ends nearer than to one inch of one another. Rather than ligate the two ends of t[illegible] maintain the continuity of [illegible] grafting [illegible] cordingly a portion of the [illegible] four inches of the internal saphena vein were removed from the middle of the right thigh and sutured to the cut ends of the artery by Carrel's method of circular suture; care was taken that the distal end of the segment of vein was sutured to the proximal segment of the artery in case there might be a valve in the portion of vein used, which would have seriously interfered with the passage of the blood through it. The length of vein excised exactly fitted the space between the two cut ends of the artery, which had retracted considerably.

The clamp that had been placed upon the distal side of the aneurysm was first removed, but the blood did not fill up, or even run into, the artery and grafted vein as I had expected, showing, I believe, that the collateral circulation was not efficient. After waiting several minutes to see if the backward flow of blood would fill up the vessels, but without result, the proximal clamp was removed from the artery, and at once blood rushed through the graft into the distal arteries. Not one drop of blood escaped at either of the lines of suture, so that nothing further was required than to suture up the wound in the overlying tissues and to apply a dressing. The limb was placed upon a posterior splint. From the moment, practically, of removing the proximal clamp from the artery the posterior tibial pulse in the two limbs seemed to be equal in force and time. The patient was kept in bed for three weeks and went home on June 14th, and at that time the pulsations along the course of the grafted vein were easily seen as well as felt.

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The patient resumed his ordinary work on August 1st, 1912, and has continued steadily at it since. He has been seen on several occasions; the last time was, Feb. 7th, when he was brought before the Glasgow Medico-Chirurgical Society. The posterior tibial pulses appear to be equal in time and force, and the pulsations of the popliteal artery can still be seen as well as felt. The grafted vein, therefore, remains perfectly patent.

CASE 2. *Traumatic aneurysm of the brachial artery; vein-grafting.*—The patient, a lad aged 19, a blacksmith, was admitted to the Royal Infirmary on Feb. 24th, 1913, complaining of a swelling at the right elbow and inability to use the arm. The patient's medical history was good; he could not remember any previous illness. Five weeks before admission to hospital he had received an injury to the right upper limb; he was working at a steel railway rail when a fragment of steel flew off and penetrated the tissues just above his right elbow anteriorly. The small wound bled profusely at the time; a dressing was applied, and by the time he got home a swelling of some size had developed in front of the right elbow, causing him much pain at first. The swelling was at first soft, but as it became much firmer the pain practical[illegible] ing was not very [illegible] of the day of the [illegible] Dr. W. L. Cullen, [illegible]

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TWO CASES OF VEIN-GRAFTING FOR THE MAINTENANCE OF A DIRECT ARTERIAL CIRCULATION.

BY J. HOGARTH PRINGLE, M.B., C.M. EDIN., F.R.C.S. ENG.,
SURGEON TO THE GLASGOW ROYAL INFIRMARY.

THE reports of the two following cases are published as examples of the successful application, in human surgery, of the lessons that have been taught by the splendid work of Carrel in his experimental studies on the surgery of the vascular system. They are not the first cases to be recorded, but I am not aware that any instances of the employment of vascular grafting have been published in Great Britain.

CASE 1. *Popliteal aneurysm treated by excision; restoration of arterial continuity by a vein graft.*—The patient, a man aged 49, was admitted to the Royal Infirmary, Glasgow, on May 1st, 1912, complaining of a "throbbing swelling behind the left knee." He stated that he had had all the infective diseases of childhood, and an attack of rheumatism at the age of 24 years, when he was confined to bed for four weeks. He denied having had syphilis. He was married; his wife had had four children, all of whom were well, and one miscarriage between the second and third labours. He first observed a swelling behind [illegible] his admission to hospital, [illegible] time "about the size of [illegible] pulse." Since then the swelling had enlarged steadily it slowly. There was a history of his having fallen backwards over some scrap-iron, and of striking the back of the left [illegible] attendant, Dr. W. Campbell, of Springburn, regarding the tumour some three months before he came to hospital, and was then advised by him to seek admission, but did not do so, and continued at his work until April 30th, the day before he came into my ward.

The patient was of medium build; his lungs, liver, and spleen appeared to be normal. The heart was slightly enlarged, and there was a double murmur heard over the aortic area. The left popliteal space was occupied by an oval-shaped swelling which had an expansile pulsation. The skin over it was tense and glazed. A thrill was felt over the tumour, and by auscultation a harsh bruit could be heard over it. The circumference of the two knee-joints, measured at the centre of the patella, was—right knee, 33 cm.; left knee, 36·5 cm. The pulse in the left posterior tibial artery felt at the ankle was sluggish and behind that of the right tibial in point of time. The superficial veins of both limbs up to the knee-joints were decidedly varicose, but those of the right leg were as bad as those of the left. The diagnosis of aneurysm was quite clear. The patient's blood gave a very positive Wassermann's reaction.

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On the evening of Feb. 26th, although the patient had produces a fatal effect on [illegible] sensitisation two whole heated agar cultures (20–30 times the previous dose) can be injected into a mouse without producing any symptoms at all. The dysentery bacillus is also very toxic, even when killed. After sensitisation, however, 100 times the dose previously fatal may be given to mice without harmful effect. These experiments, and others to which I have alluded elsewhere, demonstrate the pronounced effect of sensitisation in reducing the toxicity of a vaccine.

The question may next be asked, But is not this reduction of toxicity effected at the expense of the immunising capacity of the vaccine? The animal experiments show that this is not so. Experiments with the typhoid bacillus, plague, cholera, dysentery, streptococcus, and pneumococcus indicate that the immunity resulting from sensitised vaccine is as "solid" as that resulting from an ordinary vaccine. They show, moreover, that sensitisation has the very important effect of accelerating the onset of the immunity, and, further, that between the time of injection of a sensitised vaccine and the onset of the resulting immunity there is no diminution in the animal's resistance.

From these experiments on animals, then, it would appear that sensitisation of a vaccine has three important advantages: (1) the reaction is eliminated, (2) immunity is accelerated, and (3) this immunity is achieved without any diminution in the animal's specific resistance.

How are these results to be accounted for?—The commoner pathogenetic bacteria—e g., streptococci, pneumococci, B. coli, B. typhosus, B. tuberculosis, &c.—all act by reason of their endotoxin. During sensitisation the bacterial bodies become coated with agglutinin and opsonin. The endotoxin is not neutralised—at any rate completely—but merely covered over. When a sensitised vaccine is injected into the body these prepared bacteria, thanks to their opsonification, are at once taken up by the body cells, and especially by the polymorphonuclear leucocytes. The endotoxin is not set free until the bacterial cell is lysed in the interior of the phagocytes; and these phagocytes being the chief factory of antibodies, their interior is the very place which we wish to stimulate in a bacterial infection.

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The chief experimental work with sensitised vaccines has been done for purposes of prophylaxis. Experiments as to their curative value are less abundant. A striking piece of research, however, in this sense has been carried out by Levy and Aoki with the pneumococcus on rabbits. They first of all compared the immunising values of ordinary and sensitised pneumococcal vaccine prophylactically, and found that the sensitised vaccines gave best results. They also found that exceedingly good immunity resulted from vaccinating by the intensive method of Fornet and Müller, according to which increasing doses of vaccine are given for three days in succession. Finally, they injected rabbits with a fatal dose of living pneumococci, and found that they could save the lives of these animals by giving them large enough doses of sensitised pneumococci killed by phenol.

In view of these encouraging results on animals it was clearly desirable to ascertain the value of sensitised vaccines on man, especially in the treatment of acute bacterial infections. Through the cordial cooperation of the clinical staff at St. Bartholomew's it has been possible to do this in a series of cases which I am now, through their courtesy, permitted to report.

Before dealing with the results I will ask you to consider for a moment the nature of the problem. We are dealing with a patient whose infection is in active progress and whose general condition is sufficiently serious to justify admission to hospital. Some of the cases of which I shall [illegible] at the stage when the treatment was applied that there was grave doubt as to their recovery.

The first question is, What would a sensitised vaccine be expected to do in such a case? Now, the method being one of stimulating the patient's specific resistance, it is clear before we start that the main factor in a patient's recovery from an acute bacterial infection must always be his own general resistance. All that we can hope to do with a method such as the present one is to bring out his specific resistance to the utmost extent possible and in the speediest time—in short, to *accelerate* the immunising mechanism of the patient. I think you will agree that if we are able to do this without detriment to the patient in other respects, [illegible] certain cases is likely [illegible] raise is this: How are we to judge of the effect of a sensitised vaccine on such a patient? There can be only one answer. The effect will be seen by comparing the clinical condition of the patient—both local and general—before and after the vaccine is given. I am showing the temperature charts of these cases. But the temperature, of course, is only one point in the illness. I[illegible] the patient, his [illegible] ping, [illegible] the [illegible] hout the same degree of improvement showing in the temperature chart. Bearing this in mind, however, it must be admitted that in an acute bacterial infection the temperature forms on [illegible] as good and impartial an index of the patient's [illegible] fic treatment. The great majority were instances of infection by [illegible] were injected with stock [illegible] accine made by mixing [illegible] pyogenes and sensitising [illegible] *sensitisation by adding* 1 per cent. of phenol. In giving the vaccine the intensive method of Fornet and Muller was chiefly used—increasing doses being injected subcutaneously for three days in succession.

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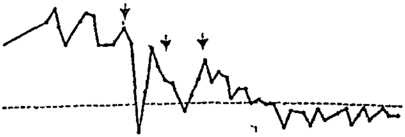

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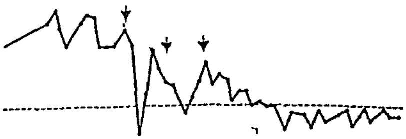

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Date.	Vaccine.	Temperature.	Pulse.
Dec. 16th	100 million	...... 102 0° F.	114
,, 17th	500 ,,	...... 101·5° F.	106
,, 18th	1000 ,,	...... 100 5° F.	88
,, 19th	—	...... 99·4° F.	96

The patient's temperature rose to 103° on Dec. 20th and 21st, but then subsided, and she made an uneventful recovery.

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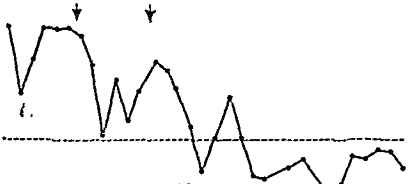

CASE . 12 .

was given doses of 100 and 600 million sensitised streptococcus pyogenes vaccine on two successive days. Thereupon the temperature subsided and she got well.

CASE 13.—The patient, aged 20, was admitted under the care of Sir Francis Champneys nine days after confinement. The uterus was found to contain pieces of retained blood-clot and placenta, which

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CASE 14.—The patient, aged 39, had a miscarriage 14 days before

given two do
usual way.
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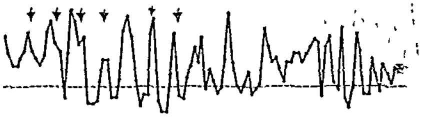
CASE 15.—The patient, aged 25, was admitted under the care of Sir fter delivery. Her confinement had lical man, and she had suffered from On admission her temperature was 32; the uterus was bulky and fixed The uterus was evacuated, blood clot

CASE 16.—The patient, aged 36, admitted under the care of Sir l confinement a week however, she felt ill, On admission on the o be 3 inches above the the cervical canal was rther examination the uterine cavity, though large, was found to be empty. Cultures were was swabbed streptococcus ent was given 100, 500, and

was found to be sloughing.

CASE 17.—The patient, who was admitted under the care of Sir Francis Champneys, had aborted four days before admission, when the placenta and membranes were also expelled. On admission the patient's blood gave a copious growth of streptococcus pyogenes, while the endometrium only grew *one colony of a staphylococcus.* She was given sensitised streptococcus pyogenes vaccine daily, and as she did

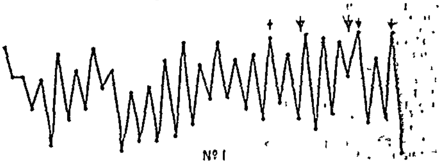


CASE 17

streptococcus pyogenes in pure culture.

CASE 18.—The next case

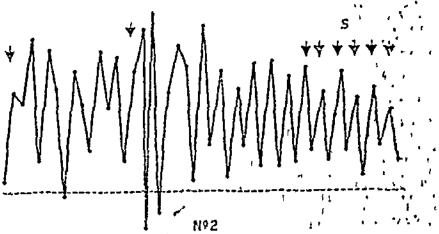
present on the dorsum of
apparently not involved; sc
suppurating blister on left th
tations applied. Next day



CASE . 18 .

localising signs; no recent blisters or abrasions of hand. Patient

fibula—periosteum stripped by pus from upper third. March 7th: Incision over lower third of left fibula, which was bare of periosteum. March 9th. Profuse hæmorrhage (1 pint) from wound in right forearm.



CASE . 18

left. March 26th. 1½ pints clear fluid.

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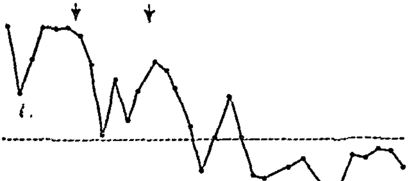

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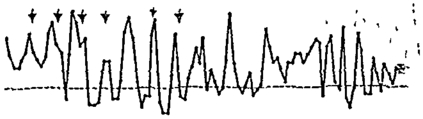
given two d[illegible]
usual way.
A further do[illegible]
lactic purpos[illegible]

CASE 15.—The patient, aged 25, was admitted under the care of Sir [illegible] fter delivery. Her confinement had [illegible] lical man, and she had suffered from [illegible] On admission her temperature was [illegible] 32; the uterus was bulky and fixed [illegible] The uterus was evacuated, blood clot [illegible]

CASE 16.—The patient, aged 36, admitted under the care of Sir [illegible] confinement a week [illegible] however, *she felt ill,* [illegible] On admission on the [illegible] o be 3 inches above the [illegible] the cervical canal was [illegible] rther examination the uterine cavity, though large, was found to be empty. Cultures were [illegible] was swabbed [illegible] streptococcus [illegible] ent was given [illegible] 100, 500, and [illegible]

[illegible] was found to be sloughing.

CASE 17.—The patient, who was admitted under the care of Sir Francis Champneys, had aborted four days before admission, when the placenta and membranes were also expelled. On admission the patient's blood gave a copious growth of streptococcus pyogenes, while the endometrium only grew *one colony of a staphylococcus.* She was given sensitised streptococcus pyogenes vaccine daily, and as she did

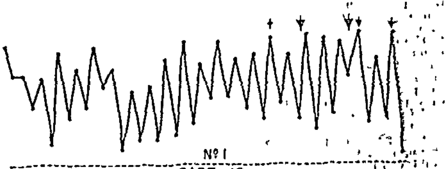


CASE 17

[illegible] streptococcus pyogenes in pure culture.

CASE 18.—The next case [illegible]

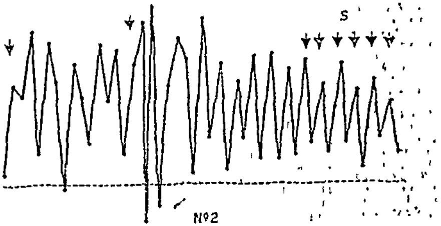
present on the dorsum of [illegible] apparently not involved; sc[illegible] suppurating blister on left th[illegible] tations applied. Next day [illegible]



CASE. 18.

localising signs; no recent blisters or abrasions of hand. Patient [illegible]

fibula—periosteum stripped by pus from upper third. March 7th. Incision over lower third of left fibula, which was bare of periosteum. March 9th. Profuse hæmorrhage (1 pint) from wound in right forearm.



CASE. 18.

[illegible] March 26th 1½ pints clear fluid. [illegible] ls. The [illegible] yx with [illegible] carpals, [illegible] the usual [illegible] rofound [illegible] obtained, [illegible] sion gave [illegible] first of [illegible] eared to [illegible] ration of method has a similar effect on man under these circumstances In some instances moreover, this dormant power of the specific resistance may be awakened by sensitised vaccine even at a comparatively late stage in the attack In cases in which the treatment did no good there was no evidence to show that it did the slightest harm

The method should have a great future prophylactically in the face of epidemics It seems possible that sensitised vaccine may also be useful prophylactically in hospitals—e g , by this means the resistance of the patient might be raised to bacillus coli streptococcus pyogenes, or the pneumococcus before operations on the alimentary tract or other infected area Similarly, the method is open to the physician for the purpose of preventing secondary infections Further, a prophylactic dose of sensitised vaccine might be given in cases of difficult labour

Finally, I submit that in cases already infected the evidence here brought forward goes to show that in a proportion of instances it is possible by this method to materially promote the patients recovery By administering a sensitised vaccine to these patients, we appear to bring into action available reserves in that complex and still incompletely defined entity, the patient s specific resistance

Bibliography —Besredka Comptes Rendus de l Academie des Sciences Paris, vol cxxxiv p 1330 Bulletin de l Institut Pasteur Paris 1910 pp 241 53, Biologica Revue Scientifique de Médecine Dec 15th 1912 Broughton Alcock Comptes Rendus de l Académie des Sciences Paris 1912 vol cliv p [illegible] 1913 p 1155 Levy and Aoki Zeitsc [illegible] Jena 1910 Band vii, p 435, Orig [illegible] Medicine July, 1912

Harley-street, W

A PRACTICAL METHOD OF GROWING THE ACNE BACILLUS FROM THE COMEDO

FOR THE PREPARATION OF VACCINES

BY T H C BENIANS, M R C S ENG , L R C P LOND ,
JUNIOR ASSISTANT, INOCULATION DEPARTMENT, LONDON HOSPITAL

(*From the Bacteriological Department London Hospital Medical College* Professor W BULLOCH F R S , *Director*)

No attempt is made to enter at length into the controversial topic of the etiology of the disease The relationship of the staphylococcus and acne bacillus as causative agents of the various lesions coming under the head of acne vulgaris is still to some extent unsettled In passing, however the writer gives it as his opinion that judging on present evidence the acne bacillus is the agent chiefly concerned in the immediate production of the skin lesions Among these very protean lesions some are from their anatomical position completely beyond the scope of vaccine therapy , in others the conditions are ideal for attaining the best results by this method of treatment

It is taken that the position of vaccines in the treatment of this disease although not entirely satisfactory, is yet sufficiently well established , the question now remains as to the relative values of autogenous as compared with stock vaccines As a general rule at any rate in hospital practice it is customary to use a stock vaccine so that this question has probably not yet been sufficiently well tested In staphylococcal lesions we know that occasionally an autogenous vaccine may effect a cure where a stock vaccine has failed and this although we are unable to differentiate varied strains of staphylococcus aureus In the case of the acne lesions we have some evidence already that the organisms found in the lesions belong to a large and varied group of bacilli

In a number of cases under treatment by the author the patients were changed from treatment with a stock acne vaccine to an autogenous vaccine with very beneficial results , in some cases a complete cure of the pustular lesions was quickly effected Data by other workers on this subject are however, needed because no more direct proof than a general consensus of opinion is possible It may well be that some or many of the numerous failures in the treatment of acne by vaccines are to be attributed to the use of a stock vaccine, which vaccine may have been prepared from an organism totally different in its characters from that growing on and in the patient s skin

Although the cultural characteristics of the acne bacillus are now fairly well known the preparation of an autogenous vaccine for a patient remains still a matter of considerable difficulty The principal methods of isolation and culture so far published are those described by Fleming[1] and by Sudmerson and Thompson [2] Fleming advocated the use of an oleic acid agar , he obtained the material from the smaller pustules, and grew it in the first instance anaerobically The latter-named writers use an acid serum agar , they take the deeper parts of the comedo in which the acne bacillus usually predominates, emulsify this in saline, and spread thinly on the slope, so that they may obtain isolated colonies to pick off They also made the first cultures anaerobically Most workers however, agree that to enable the acne bacillus to start growing on artificial media a considerable mass of the infective material must be planted, even on a medium which is favourable to the growth of the organism When this is done it mostly happens that there are sufficient staphylococci present to overgrow the more slowly growing acne bacillus

The method used by the writer does not aim at producing the organism in a state of bacteriological purity The aim of the procedure is to supply in a reasonably short time a sufficiently free growth of the acne bacillus for the purpose of preparing a vaccine In the more complete methods, moreover the bacteriologist must himself remove the pus, or the comedo, from the patient and at once proceed to select the required parts of it and to plant them out under anaerobic conditions By the simple method here described the bacteriologist requires merely one or two comedones, whether expressed a few minutes or days before is immaterial

As will be seen, a very small proportion of staphylococci are almost invariably present but these may be treated as a negligible factor The proportion of staphylococci present is not more than about 10 per cent at the most , thus in giving an average dose of the acne vaccine say 5 000 000, one is giving at the same time 500 000 staphylococci Since an average dose of the staphylococci, perhaps to be given at the same time with the acne is not likely to be less than 250 000 000 the original 500,000 contained in the acne vaccine may well be overlooked

Variations in the bacteriology of the comedo —The bacteriology of the comedo varies greatly from a quantitative point of view Almost always both staphylococci and acne bacilli are present The staphylococcus may be said to be invariably present , the acne bacillus is sometimes though rarely absent The average sebaceous plug contains acne bacilli greatly in excess of the staphylococci which latter are mainly present in the superficial part If such a comedo be put into neutral broth and incubated for about a week a large excess of staphylococcus will be present , after two weeks or more the numbers of cocci and bacilli will be more or less in equal proportion , in the course of a further week or two the bacilli may come to outnumber the cocci, although the amount of growth will not in any case be very great If on the other hand the comedo starts with a relatively large proportion of staphylococci present it is probable that under the conditions just mentioned the acne bacillus will make practically no growth at all By the method to be described it is rarely that one fails to obtain a considerable growth of the acne bacillus within a period of from 10 to 14 days In the case of a comedo containing a large excess of bacilli a culture practically pure and sufficiently abundant for the preparation of a vaccine may often be obtained by the fifth or sixth day

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As is well known, the high colour of urine in malaria depends upon the increased amount of urobilin present. Plehn, in 1909, recommended this very delicate and simple reaction to demonstrate the presence of urobilin in the urine. To obtain it we require the following: 1. Schlesinger's solution, which consists of zinc acetate, 1 part; alcohol, 10 parts. 2. Tincture of iodine. 3. A sample of the urine to be tested.

In a test tube one-third filled with the unfiltered urine an equal quantity of Schlesinger's solution, which has previously been well shaken, is added. A few drops of a weak solution of tincture of iodine are now added, as this accelerates the reaction. The mixture is then filtered, and if urobilin be present the filtered mixture shows a more or less distinct fluorescence. This reaction is met with in the urine of patients suffering from all types of malarial fever To show how delicate it is, in cases of malignant malaria it can be obtained after diluting the urine with 200 parts of water. Quite healthy urine does not give the reaction, as it contains, if any, only the slightest amount of urobilin. Urobilin is present, of course, in many other diseases, such as cirrhosis of the liver, liver abscess, many infectious diseases, &c.

This test was used frequently in the Government Civil and Victoria Hospitals, Hong-Kong, and we found it useful, particularly in diagnosing doubtful cases where parasites were not present in the blood. Now and then a case of malarial fever may happen in which the hepatitis and hæmolysis are not sufficient to cause urobilinuria. The absence of this reaction, however, speaks strongly against acute malarial fever, a fact of great value when a quick diagnosis is to be made.

Welbeck street, W.

NOTE OF A CASE OF AMŒBIC DYSENTERY OF THREE AND A HALF YEARS' DURATION RAPIDLY CURED BY INJECTIONS OF EMETINE HYDROCHLORIDE.

BY FERNAND L DE VERTEUIL, M.D. EDIN., M.R.C.S. ENG., L.R.C.P. LOND.,

SURGEON, R.N. (RETIRED).

THE following case is of interest as showing the rapid, nay immediate, effect of emetine in a severe chronic case of amœbic dysentery.

The patient, a Frenchman, aged 44, first came to consult me on May 5th, 1913. He gave the following history. In October, 1909, he left France for Panama, where he was to represent an important French firm. Previous to this he had always enjoyed excellent health, and was a strong, powerfully built man. Two months after his arrival in Panama he suffered from a sharp attack of dysentery with passage of mucus and bloody stools. From Jan. 1st to April, 1910, he was constantly ill, suffering from fever and diarrhœa. Besides various other drugs he was dosed with quinine. As he was rapidly going downhill he was advised by Dr. Preciado, of the Panama Presidency, to leave immediately for France. During the last [illegible] 30lb in weight. [illegible] he was operated [illegible] months after this operation he felt fairly well. This [illegible] was, however, of short duration, [illegible] to return to a normal diet he had a recurrence of his dysenteric symptoms, and had to confine himself to a strict milk diet. During the following two and a half years he had six severe subacute attacks. These attacks would last for several weeks. Two of them were followed by liver abscess, for which he underwent two further operations.

In April, 1913, the patient arrived in Vancouver. Shortly after his arrival here he had a subacute attack, and it was for this he came to consult me. He had an urgent and constant desire to go to stool; he was passing from 20 to 30 stools daily, the majority of which consisted of only a little mucus and blood, accompanied [illegible] tenesmus. There were pain a[illegible] of the colon. He had a slight [illegible] He also suffered from external hæmorrhoids, which had apparently been caused by the constant straining at stool. The patient appeared a complete nervous and physical wreck; he was thin and emaciated, with a muddy, icteric-looking complexion, prominent cheek bones, with sunken eyeballs. The marvellous results first obtained and published by Leonard Rogers,[1] and subsequently by others,[2] with emetine made me anxious to try it. Five days, however, elapsed before I could obtain a supply of the drug. Late in the evening of May 10th the patient received his first injection, consisting of 1/3 gr. of emetine hydrochloride dissolved in saline solution and enclosed in a glass ampoule (Burroughs and Wellcome). On the following day at *noon* he received a second injection. During the night of the 11th he had no call to stool; previously he had to get up seven or eight times during the night. On the 12th, *36 hours* after the first injection, he received a third injection, and from that date there was a complete disappearance of all dysenteric symptoms. That day he had but one stool, which was quite normal in appearance. He subsequently received seven more injections as a matter of precaution. During the time he was receiving the emetine injections no other drug or treatment was used. The injection of the drug did not cause the slightest unpleasant sign or symptom.

It is barely three weeks (May 29th) since the patient received his first injection, yet the mental and physical change that has already occurred is remarkable. As the patient graphically states, "it was like passing suddenly from Hades to Olympus." He is gradually resuming a normal diet. In fact, on May 17th, a week after he had began the injections, he could not resist the temptation and consumed a large steak. This did not cause the slightest inconvenience, though previously such a dietary indiscretion would have been followed by the most dire results.

It is as yet much t o early to speak of a permenant cure in this case. The results obtained have, however, appeared to me to be so extraordinarily rapid that I have not hesitated to describe the case in some detail. We have few specific drugs in medicine. The addition of a new one is certainly an epoch-marking discovery. Emetine seems to be as potent a specific in amœbic dysentery as quinine is in malaria or salvarsan in syphilis and yaws. When we consider the dangers and fatal complications of this malady, as well as the years of misery and suffering which on account of its chronicity and liability to recurrence it often entails, Major Leonard Rogers's great discovery must occupy a foremost place in the medical achievements of the present century.

Vancouver.

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[1] *Rogers, Leonard* The Rapid Cure of Amœbic Dysentery and Hepatitis by Hypodermic Injections of Soluble Salts of Emetine, [illegible] June 22nd, 1912, p. 1424 Further Experience of the [illegible] ections [illegible] amœbic [illegible] LANCET, [illegible] amœbic [illegible] Soluble [illegible] entery, p. 664. [illegible] h Subcutaneous Injections of [illegible] Cases, Ibid., April 19th, 1913, p. 1216

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT [illegible] annual meeting [illegible] ursday, [illegible] square, London, W., under the presidency of Dr James Chambers. The meeting will commence at 11 A.M. on Wednesday. At 2 P.M. the retiring president, Dr. James Greig Soutar, will make a presentation to Dr. H. Hayes Newington, member for 40 years and treasurer of the association since 1894, president 1889. [illegible] address will then be delivered by Dr. [illegible] read:—Dr. H. Ca[illegible] Dr. Henry Devin[illegible] Symptoms. The annual dinner will be held that evening at the *Café Monico* at 7 for 7.30 P.M. On Thursday at 10 A.M. the following papers will be read:—Dr. C. A. Mercier: The Interpretation of Dreams; Mr. H. Salter Gettings: Dysentery, Past and Present, with Especial Relationship to [illegible]; Mr. E. Barton White: The [illegible] the Urine in Some Cases of [illegible] there will be a discussion on the Report of the Status of Assistant Medical Officers' Committee. From 4 to 6 30 P.M. the President and Mrs Chambers will give a garden party at the Priory, Roehampton.

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[1] Rogers, Leonard The Rapid Cure of Amœbic Dysentery and Hepatitis by Hypodermic Injections of Soluble Salts of Emetine, [illegible] June 22nd 1912 p 1424 Further Experience of the [illegible] ections [illegible] amœbic [illegible] LANCET, [illegible] amœbic [illegible] Soluble [illegible] entery, [illegible] p. 664. [illegible] h Sub- [illegible] Cases, cutaneous Injections of [illegible] Ibid., April 19th, 1913, p. 1216

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT [illegible] annual meeting [illegible] ursday, [illegible] square, London, W., under the presidency of Dr James Chambers. The meeting will commence at 11 A.M. on Wednesday. At 2 P.M. the retiring president, Dr. James Greig Soutar, will make a presentation to Dr. H. Hayes Newington, member for 40 years and treasurer of the association since 1894, president 1889. [illegible] address will then be delivered by Dr. [illegible] read:—Dr. H. Ca[illegible] Dr. Henry Devine [illegible] Symptoms. The annual dinner will be held that evening at the *Café Monico at 7 for* 7.30 P.M. On Thursday at 10 A.M. the following papers will be read:—Dr. C. A. Mercier: The Interpretation of Dreams; Mr. H. Salter Gettings: Dysentery, Past and Present, with Especial Relationship to [illegible]; Mr. E. Barton White: The [illegible] the Urine in Some Cases of [illegible] there will be a discussion on the Report of the Status of Assistant Medical Officers' Committee. From 4 to 6 30 P.M. the President and Mrs Chambers will give a garden party at the Priory, Roehampton.

WIGAN MEDICAL SOCIETY —A meeting of this society was held on May 29th, Dr J Thomson Shirlaw, the President, being in the chair —The President showed a woman, aged 47 years, who had been treated by him since the end of July, 1911 When first seen she had a ragged ulcer of the right side of the pharynx, involving the œsophagus The ulcer was deep with infiltrated edges Syphilis, &c , were excluded from the diagnosis The patient was sent to Mr W Thelwall Thomas, of Liverpool, whose diagnosis was inoperable malignant disease of the pharynx Treatment consisted wholly of the exhibition of tablets containing thyroid gland 6 gr , suprarenal gland ¼ gr , and pituitary gland 1/16 gr There was slow gradual improvement By November the patient had increased in weight by 6 lb , could swallow much better, and felt stronger Towards the end of December she could swallow anything except butcher's meat In January, 1912, the patient weighed 5 lb more than in November, and later still she gained 2 lb more, giving a total increase in weight of 13 lb She had not had any tablets for six months, but was still quite well There remained, however, at the site of the ulcer a certain amount of thickening and induration —The President then read a paper entitled "A Plea for the Treatment of Inoperable Cancer by Feeding with Animal Gland Substances" He said that cancer was due to two things — (1) local irritation, and (2) loss of a regulator of cell growth The first resulted in the production of a large stock of young blood, the exuberant energy of which it was difficult to keep in subjection "malignancy is the insanity of function" With regard to the second cause, it was pointed out that the regulator of cell growth was a secretion of some of the ductless glands, which about middle age begin to fail from exhaustion These glands were comparatively large in the young, when growth and metabolism were very active, and the onset of senile decay was accompanied by changes denoting their failure—e g , degrees of myxœdematous tendency, indicating failure of thyroid, the defective nutrition of the osseous system and the gradual return to second childhood associated with diminished pituitary activity, as well as the loss of tone of the heart and blood vessels arising from suprarenal failure Life was a series of chemical changes in the protoplasm—in short, metabolism These changes were largely under the control of hormones of the ductless glands, which were also chemical bodies, most probably of the nature of enzymes, and acted by a process of catalysis The hormones were correlated There existed a coordination as well as a sort of functional antagonism between them the sum total of their function being perfect metabolism and cell growth Cancer was due to loss or impairment of the secretion which governed metabolism , or, in other words, the disturbance of the natural laws which governed the chemistry of the tissues so that cells of an irritated tissue "ran amok" and formed the tumour —The paper was discussed by most of those present, and the President replied to various questions and criticisms

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LITERARY INTELLIGENCE —The following [illegible] on by the Cambridge [illegible] ofessor James Ward [illegible] " by Professor C S Sherrington M D , F R S , "The Structure of the Nervous System and the Sense Organs," by Professor G Elliott Smith, M D , [illegible] Professor G Dav[illegible] Theory of Kno[illegible] Mental Measurement," by W Brown, D Sc , "The Psychology of Mental Differences" by C Burt, M A , "Collective Psychology," by W McDougall, M B , F R S , "The Psychology of Personality and Suggestion," by T W Mitchell, M D Psychology has now attained an independent position with methods of study and themes of research of its own, and it is intended by the Syndics of the Cambridge University Press in issuing these volumes to deal systematically with the various subjects which fall under the inclusive heading of psychology —The London University Press will publish in July "The Principles and Practice of Medical Hydrology, being the Science of Treatment by Waters and Baths" by Dr R Fortescue Fox

Reviews and Notices of Books.

A Manual of Operative Surgery By H J WARING, M S , M B , B Sc Lond , F R C S Eng , Surgeon to, and Joint Lecturer in Surgery at, St Bartholomew's Hospital Fourth edition London Henry Frowde and Hodder and Stoughton 1912 Pp 778 Price 12*s* 6*d* net

IN any book of operative surgery it is very necessary that from time to time those operations which are no longer practised should be removed from the text and new operations added, and great judgment is required as to which operations should be discarded These necessary changes have been made in the fourth edition of this well known book, and the work has been brought thoroughly up to date It is hardly necessary to say that it is a valuable text book for the student and one on which he can rely—opinion to this effect has been so completely endorsed

There is one change in this edition which deserves more than a passing mention The author has thought it well to employ throughout the "Basle nomenclature" of anatomy and we acknowledge that there are many weighty reasons why this should be done In Canada and the United States and also in Australia, the Basle nomenclature is much more widely used than in this country, and a text book which has so wide a circulation as this is required by many of its readers to contain the new anatomical terms, but this is almost the first surgical work in this country to introduce the new nomenclature There is much to be said for the new names, but many surgeons doubt if they will ever become universally employed Moreover, the Basle nomenclature needs revision, and many of its absurdities will, we think, have to be removed before it will be received by British surgeons A compromise might at present be effected by employing both the new and the old terms, placing one or the other in brackets, though considerable trouble to authors would thus be caused

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THIS volume contains a full and complete account of diseases of the stomach, intestines, and pancreas, special stress being laid on methods of diagnosis and treatment

The first portion of the work is occupied with a discussion on the anatomy and physiology of the stomach and intestines hints on the interrogation of the patient and a review of the general methods of physical examination In the second portion detailed descriptions are given of diseases of the stomach In the chapter on diet Dr Kemp discourses at length on Professor R H Chittenden's views as to the danger of excessive protein diet Professor Chittenden maintains that the standards of diet usually recommended are excessive in quantity in regard to proteins He states that they do not undergo complete oxidation in the body like non nitrogenous foods, but that there is left behind a residue of non combustible matter, crystalline nitrogenous products, which ultimately, if occurring in excess of the requirements of the body, prove injurious to the gastro intestinal tract, liver, kidneys and to the circulatory and nervous system In accordance with these views Dr Kemp lays down a dietary containing an excess of vegetable food, but he does not appear to adhere closely to the restricted dietary recommended by Professor Chittenden, although he is convinced of the soundness of his views The clinical descriptions throughout the work

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Pathologists specially interested in the nervous system will welcome these careful and elaborate investigations, and we look forward to the appearance of the next volume. Meantime we congratulate Professor Homén on the merits as well as the get-up of his "New Series" of original contributions.

Contribution à l'Étude du Traitement du Cancer du Testicule. Par le Docteur C. OSOIRO MASCARENHAS, Ancien Interne des Hôpitaux de Paris. Paris: Société Générale d'Imprimerie et d'Édition Levé. 1912. Pp. 223.

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Handbuch der Vergleichenden Physiologie. Herausgegeben von HANS WINTERSTEIN. Lieferungen 32–33. *Physiologie des Energiewechsels.* Erste Hälfte. Pp. 645–806; pp. 807–968. Jena: Gustav Fischer. 1913. Price 5 marks each.

IN these two Lieferungen Professor Biedermann continues his exposition of the supporting and skeletal substances, and as he has taken the whole animal kingdom for his subject it is easy to see how comprehensive must be the details set forth. At the beginning of No. 32 the author finishes what he has to say about the corals, and then proceeds to consider the skeletal tissues of the mollusca, including the lamellibranchs, gasteropods, and brachiopods. The author devotes a considerable space to the interesting question of the formation of pearls by certain bivalves, and gives prominence more especially to the recent work of Rubbel on "Pearl Formation in Margaritana"; nor does he omit the work of R. Dubois and also of the English observers—Jameson, Herdman, and Hornell.

In No. 33, first the cuticular structure of worms and arthropods is dealt with, and, in fact, it occupies the greater part of the text. A very full account of chitin—a word coined in 1823 by Odier—in its structural, chemical, optical, physical, developmental, and physiological relations in different species is given, including its extraordinary resistance to solvents. The calcification of the exo-skeleton of the crustacea is then considered, followed by the secretion of chitin, and the question of the casting and regeneration of a new "skin." The development of the radula, or ribband-like tongue, and its series of teeth is very fully described. From this it is an easy transition to the development of the scales on the wings or other parts of butterflies and moths. Oddly enough, in the literature we failed to find a reference to the work of George Rainey on shell formation. The mantles of tunicates come next, with their N-free cellulose-like constituents first described to be particularly interesting to otologists as well as to pathologists generally. Dr. Alex Wallgrew gives a careful account of the clinical and pathological phenomena observed in what he calls Heine-Medin disease, which in reality is poliomyelitis anterior acuta. In 1911 a more or less disseminated epidemic of this disease appeared in Finland. This paper is also illustrated by excellent plates, and extends to 40 pages. It is well worth perusing. Acute Myelitis and So-called Spontaneous Hæmatomyelia forms a contribution by H. Fabritius. He gives a full account of the symptoms and diagnosis of myelitis, and rejects the term "spinal thrombosis" suggested by Bastian. The final contributions are on Two Cases of Extradural Intravertebral Tumours, by A. J. Palmin, and A Case of Right-sided So-called Sclerotic Atrophy of the Brain, by H. Fabritius.

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Mr Snowden's definitions of Socialism and Syndicalism are clear, and form a good preface to the whole series His history of the rise of Socialism is well done, and his criticisms of the theories of St Simons Fourier, Louis Blanc, Robert Owen, Karl Marx, and Lassalle are acute as well as fair His statement that Socialism will come only when the great body of men and women have become intellectually convinced that they cannot promote their own welfare save by promoting the common welfare is one which we must all welcome The admission that there is a practical reason as well as a moral reason against advancing Socialism by a class war is a concession to the intelligence of wage earners—it is the point of view, we believe, that William Morris, the most important English Socialist, took at the end of his career Mr Snowden's book is full of similar plain and moderate statements, but a Socialism that does not aim at the abolition of private property, and only seeks to socialise such property as can be more efficiently and economically controlled socially, will surely not satisfy the leaders of Socialism

Mr W V Osborne's book on the objects and meaning of sane trade unionism has the same merits of clearness and moderation It is usual to begin the story of trade unionism with the famous case of the Dorsetshire labourers, but, as a matter of fact, combinations among workmen for the raising of wages had existed many years before 1835 But the case of the Dorsetshire labourers was among the first to focus public opinion on the matter, and it has a particular interest for this journal, for the Founder of THE LANCET, a Dorsetshire man and then Member of Parliament for Finsbury, made his reputation in the House of Commons by his outspoken speech upon the arrest and sentence of those luckless hinds They had taken a part in endeavouring to form an agricultural labourers' movement they were arrested and tried for the crime of administering an unlawful oath and, notwithstanding their ignorance of having committed an offence, were found guilty and sentenced to seven years' transportation Wakley's speech ended with an address to the King (William IV) that His Majesty would be pleased to grant a pardon and that the six labourers convicted at Dorchester in 1833 should be recalled Joseph Hume was his co teller, and 84 voted with Wakley and 310 against But on March 19th, 1836, Wakley, who with the assistance of Hume and O Connell had kept the terrible story before the public, was able to elicit from Lord John Russell a reply to the effect that the convicted had received a free pardon and were returning to their native village at the Government's expense Mr Osborne, who is the hero of the Osborne judgment, describes in a very simple and straightforward manner the early struggles of trade unionism for a legal status, the constitution and development of trade unionism and the policy and programme of the Labour party as it now exists His general conclusion is that properly conducted trade unions will never find themselves unnecessary, but that if the unions refuse to advance with the times and adapt themselves to changing conditions they must sink to decay His chapter on Syndicalism may well be read side by side with Mr Snowden's chapter on Syndicalism and the Social Movement

Mr W H Dawson, writing on "Industrial Germany," supplies many of the kind of details which those who desire to apply the principles advocated in the two previous books would want to have It is especially necessary for the proper comprehension of industrial developments in this country that we should understand how far in Germany the railways and waterways, for example, have been brought into a state of efficiency and made to administer to the interests of commerce owing to their national ownership Similarly, Mr James Long's description of the small holdings movement is full of lessons for those who see the waste of our land, and who know that agricultural employment, including under that word dairy farming, keeping of live stock, market gardening fruit and flower growing, would in proper economical conditions provide reasonable remuneration in a healthy environment for thousands now undergoing the miseries of overcrowding and underfeeding

The other two volumes of the series are more directly of interest for medical men, although the repopulation of the countryside would probably be one of the greatest factors imaginable in the promotion of public health We pass now from discussing the conditions for the betterment of populations by a more equitable division of advantages and opportunities to the consideration of the circumstances which should improve the health and capacity of the individual for enjoying that betterment Dr Edgar Schuster has written an extremely able and clear account of the problems which lie before the eugenist He puts out the claim for eugenics to be reckoned as a science which has already placed many facts inferences, and hypotheses in orderly array, systematising "the study of those agencies under social control which may improve or impair the racial qualities of future generations either physically or mentally," such being Galton's definition of eugenics The book explains briefly the theories of organic evolution and the principles of Mendelism, and describes also the statistical methods useful for the study of inheritance A chapter on the hereditary nature of certain diseases is properly cautious, inasmuch as modern scientific opinion is not at all in accord with the views of even 20 years ago Tuberculosis, once considered to be entirely hereditary, would now be held by many persons not to be hereditary at all , on the other hand, direct inheritance undoubtedly plays a great part in feeble mindedness, and certain nervous diseases appear to conform to Mendelian laws

The great object of eugenics is to influence the unborn nature of man rather than to improve the external conditions of the living The central thought that is presented in Mr Thiselton Mark's "Modern Views of Education" is that whether in organisation or in teaching it is fundamentally necessary to construct and build around the life that is already there, and his manual thus has with Dr Schuster s a common message The actual problems that affect medical education are not touched upon in a work that has to be at the same time small in bulk and general in scope, but we are certain that the particular difficulties which confront the General Medical Council will be better appreciated by those who have made themselves, through the medium of Mr Mark's pages, familiar with the general direction of modern educational thought This book is really too brief

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DEATH OF A CENTENARIAN —The death occurred at Horsebridge, Hellingly, Sussex, on June 18th, of Mrs Sarah Ann Akehurst, who on May 21st celebrated her 101st birthday each subject the conductors of the Library have sought the advice of a recognised authority, so that the books may have a special hall mark and comprise the essentials of the subject—both the things which are admitted on all hands, and the arguments which by suggesting that more than one construction can be put upon the facts, point the way for further research The object of the conductors of the Library moreover, is to treat of each subject in such a way that not only shall nothing obsolete find notice but that the relationships of contemporary thought shall be brought out, which is to propose that the volumes of the Library, though written by independent authors, shall be to a certain extent dependent upon one another, their contents all having a bearing on life as it is

Mr Snowden's definitions of Socialism and Syndicalism are clear, and form a good preface to the whole series His history of the rise of Socialism is well done, and his criticisms of the theories of St Simons Fourier, Louis Blanc, Robert Owen, Karl Marx, and Lassalle are acute as well as fair His statement that Socialism will come only when the great body of men and women have become intellectually convinced that they cannot promote their own welfare save by promoting the common welfare is one which we must all welcome The admission that there is a practical reason as well as a moral reason against advancing Socialism by a class war is a concession to the intelligence of wage earners—it is the point of view, we believe, that William Morris, the most important English Socialist, took at the end of his career Mr Snowden's book is full of similar plain and moderate statements, but a Socialism that does not aim at the abolition of private property, and only seeks to socialise such property as can be more efficiently and economically controlled socially, will surely not satisfy the leaders of Socialism

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Eddowes and Others *v.* The St. John's Hospital for Diseases of the Skin.

THE action brought recently by three of its former honorary medical officers against the corporation known as the St. John's Hospital for Diseases of the Skin is of a nature fortunately of rare occurrence in the law courts, and the absence of precedent was responsible for the evident hesitancy of Mr. Justice PICKFORD with regard to some of the issues raised and the remedies sought for. Dr. A. EDDOWES, Mr. G. W. DAWSON, and Dr. L. F. KNUTHSEN, the three plaintiffs who, supported with success by the London and Counties Medical Protection Society, raised in the King's Bench Division the question whether the committee of the hospital had exercised towards them powers which in law it possessed, were not the only persons interested directly and indirectly in the points discussed. Four other members of the staff of the hospital had shared their dismissal upon similar alleged grounds, while the whole medical profession was concerned, if less immediately no less vitally, in the upholding of the plaintiffs' broad contentions. With the actual matters which brought a large number of the medical staff of a particular institution into conflict with its board of management we do not propose to deal. There was obvious disagreement between them and one of their colleagues. The fact that there was long-standing friction of a very serious nature between Dr. MORGAN DOCKRELL and certain of his fellow practitioners was made public property at the trial, as was the fact that the committee which inquired into the matter adopted Dr. DOCKRELL's view and gave effect to it in a manner which added emphasis to its finding and, indeed, rendered litigation almost inevitable. The procedure by which the committee arrived at its conclusion to dispense with the services of the plaintiffs was one of the points to which attention was called by the plaintiffs at the trial, but the fact that they had been dismissed by notice from their posts as members of the honorary staff of the hospital was the principal issue raised on their behalf, and the point to which Mr. Justice PICKFORD mainly directed his judgment. In delivering it he cleared the ground of other questions by pointing out that he had not got to decide whether the defendants acted *bonâ fide* or whether they purported to exercise their powers to the best interests of the corporation. There was not, in short, any allegation of bad faith or corrupt intention made against the governing body. The question upon which the learned judge concentrated his attention was whether the committee had acted within its legal powers, and on that point he was against it. He did not find in the articles of association or the rules of the hospital, or in the general principles applicable, anything that would justify dismissal in the circumstances proved to exist. Mr. Justice PICKFORD further made a declaration that the plaintiffs were entitled to remain members of the corporation, but refused an injunction, which they asked for, to restrain the defendants from excluding them from the hospital. It was on these grounds that judgment was given for the plaintiffs for sums of £50—damages of a nominal character awarded in the absence of any evidence of pecuniary loss upon which accurate assessment of compensation could be made—and for costs. Upon this result congratulation is due to the plaintiffs and to the colleagues who shared their dismissal at the hands of the defendants.

What is the position of a member of the staff of a hospital in the event of questions arising of a serious nature as to which he finds himself in disagreement with the board of management? The action against the governing body of the St. John's Hospital for Diseases of the Skin has called attention to the desirability of the position of the staffs of hospitals being defined before their appointment in terms capable of covering all circumstances which are reasonably likely to occur; their mutual relations and their relations with the lay authorities should be made the subject of a written contract at the time when the appointment is entered upon. In the case of the St. John's Hospital for Diseases of the Skin there was a complication arising out of the peculiar constitution of the corporation owning the hospital, and its governors in good faith adopted a position as to which they were held by the learned judge to have been mistaken. Mr. A. W. WEST, treasurer of St. George's Hospital, and Sir THOMAS BARLOW, President of the Royal College of Physicians of London, were called on behalf of Dr. EDDOWES and his co-plaintiffs to explain what should be the status of a member of the staff of the hospital in the absence of definite regulation by contract. Neither of these undoubted authorities, approaching the question from separate points of view, had any doubt as to the permanence of the appointment of physician on the staff of a hospital in the absence of conditions as to surrender at a stated age or after a stated period. Limitation in point of time of the tenure of these posts is now more common, but that such a tenure could not be determinable by notice was the gist of Sir THOMAS BARLOW's evidence upon this head. Naturally he admitted that misconduct would justify dismissal; but this, he pointed out, should only take place after proper inquiry, and there should be a tribunal of arbitration for the settlement of disputes between opposing sections of the staff if there should be any disagreement to justify such intervention. The desirability of arbitration of an independent character does not appear to have occurred to the committee of the St. John's Hospital for Diseases of the Skin, the members of which failed to recognise that, owing to the position occupied by Dr. DOCKRELL and other matters, they were not the right persons to adjudicate upon what amounted to a dispute between themselves and the plaintiffs. In addition to this, one of their number, who took the chair at their meetings, appears to have increased rather than diminished the friction which, we know to be large, but the measure of which *escapes us in existing conditions, and assist us to formulate* a scheme of control now that our weapons are more effective. Sir MALCOLM MORRIS insists that before any systematic control of syphilis can be secured notification is necessary, and it must be remembered that the National Insurance Act provides already a half measure of this kind. He would not have the licensing of prostitutes made any part of such a scheme, and the experience of foreign countries now points in the same direction.

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HARD WATER FALLACIES.

WE have received a communication from a lay correspondent who expresses his belief "that the lime in common water has much to do with bringing on old age," and that therefore everyone should drink distilled water. We fancy this belief is fairly common, but of course it is fatuous. The supporters of this view seem to regard water as the only possible channel by which lime salts are conveyed to the organism. They appear to forget altogether the fact that lime salts are inseparable from the common everyday articles of food, so that if hard water were left out of the dietary there would still be secured a large intake of lime salts which could only be avoided by a hunger strike. A tumbler of hard water rarely contains 1 or at most 2 grains of chalk, and a baby requires, on theoretical considerations, at least 4 grains of lime daily. Assuming that the average daily amount of water consumed is about five tumblers, the amount of lime daily introduced into the economy through this vehicle would not exceed 10 grains, assuming the water to be very hard. But the amount introduced in food is much more than this. A pint of milk, for example, contains more lime salts than a pint of lime water, the amount in milk being about 10 grains. Eggs, the cereals, and vegetables contribute their quota, and when the total amount of such foods consumed per day is taken into the calculation the ingestion of lime salts is clearly considerable, apart altogether from what may be taken in solution by drinking even the hardest water. It is probable that the amount of lime salts taken through food easily exceeds the quantity present in gallons of hard water; the use of distilled water therefore provides an ineffective method for preventing the mischief which it is assumed lime salts may do the body. Also the drinking of distilled water is opposed to physiological considerations and may produce injury to the organism. When cells are placed in distilled water the passage of the water into the cells rapidly occurs owing to a difference of osmotic pressure, and the cells swell up and may finally burst and die. This action, which can correctly be described as poisonous, is observed when distilled water is drunk, for in this case the surface layers of the epithelium of the stomach undergo considerable swelling; salts also may pass out and the cells die and be cast off. Such a process may well resolve itself into a catarrh of the stomach. There is a continental water which is remarkably pure but poisonous because it produces gastritis for the reasons just quoted. It is doubtful whether hard waters are unwholesome, but the inconvenience caused by the furring of domestic services and kitchen apparatus by the deposit of chalk from such waters is very real, and affords a just cause of complaint in many London districts. There are no expenses connected with the storage or filtration of the deep-well supplies in the metropolitan area, as is the case with the river supplies. The deep-well waters are neither stored nor filtered, and therefore they might be softened. The water so treated, however, would not have the qualities of distilled water, nor would its use avoid "bringing on old age."

THE VALUE OF MOSQUITO KILLING IN HOUSES AS AN ANTIMALARIAL MEASURE.

MODERN antimalarial measures aim at the destruction of the insect host of the specific parasites and the prevention of the transference of the latter from one host to the other. The methods generally employed for the extermination of mosquitoes are directed chiefly towards the abolition of their breeding places and the destruction of their eggs and larvæ. It has been regarded by many persons as absolutely futile to attempt to extirpate the mature insect in infected localities, though it is admitted by others that some temporary benefit might, perhaps, follow the reduction of the number of mosquitoes in a given area. It cannot be denied that the abolition of mosquito breeding places often involves the construction of engineering or sanitary works which cause considerable expense. This question of expenditure has been put forward as one of the main arguments against the adoption of the modern scientific methods of malaria prophylaxis, and it is obvious that such outlay could hardly be justified in the case of small communities, and more particularly of temporary camps within malarious districts. Our attention has been directed recently to this subject by an interesting paper published in our contemporary the *American Journal of Public Health* (Vol. III., No. 2) by Dr. A. J. Orenstein, assistant chief sanitary inspector, Isthmian Canal Commission. In this paper the value of "mosquito catching" in dwellings as a prophylactic measure against malaria, more especially in temporary encampments, is emphasised, and a description is given of the methods which this expert employs to effect his purpose. The various means used for killing mosquitoes, anophelines and others, include an ordinary "slapper" made of a 6-inch square wire gauze attached to a 2-foot stick; a glass phial, such as is commonly employed by entomologists for collecting insects, containing a plug wetted with chloroform; and, lastly, a mosquito trap devised by a member of his staff. With this equipment the mosquito catcher passes from hut to hut. If the dwellings be screened the catching is done early in the morning and again in the evening. If the hut be not screened and the anophelines are abundant, search for them is made four or five times daily. As proof of the success of his methods Dr. Orenstein quotes the results obtained by him in four camps situated in the jungle along the line of construction of the new Panama railroad, where some 1200 labourers were housed in "screened cars." Anophelines were very numerous, and but little could be done in the way of attacking the mosquito breeding places by which the camps were surrounded. By killing systematically day by day the mosquitoes found within the huts in the manner above described it was found possible at a trivial cost to keep for a period of two or more years the malaria incidence-rate in the camps practically as low as that of the remainder of the canal zone methods which the new regulations are framed to secure. The organisation has done a good service in putting the case before those immediately concerned in this practical way. It is often urged that the regulations drawn up by Government departments are seldom founded on practical considerations, a criticism which can only be met effectively by submitting the proposals to practical treatment, as has been done in the case of the health regulations in the pottery trade by the leading potters themselves. It must be a source of satisfaction to the Home Office authorities, and particularly to the Chief Inspector of Factories, Sir Arthur Whitelegge, to learn the view of practical authorities, that if the regulations are carried out thoroughly the potters' calling should soon become a healthy one. In order to assist all those who are willing to help to bring about the praiseworthy consummation indicated, Mr. Burton has compiled a careful analysis[1] of the regulations governing the manufacture of pottery in the British Isles. This pamphlet places in the hands of manufacturers, managers, foremen, and workpeople a digest setting forth in plain and simple terms the regulations devised for the better protection of the health of all pottery workers, together with such explanations, hints, and advice as are bound to be helpful.

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[1] Published by the Pottery Gazette in handbook form (8, Broadway, Ludgate-hill, London, E.C.).

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WE have received a communication from a lay correspondent who expresses his belief "that the lime in common water has much to do with bringing on old age," and that therefore everyone should drink distilled water. We fancy this belief is fairly common, but of course it is fatuous. The supporters of this view seem to regard water as the only possible channel by which lime salts are conveyed to the organism. They appear to forget altogether the fact that lime salts are inseparable from the common everyday articles of food, so that if hard water were left out of the dietary there would still be secured a large intake of lime salts which could only be avoided by a hunger strike. A tumbler of hard water rarely contains 1 or at most 2 grains of chalk, and a baby requires, on theoretical considerations, at least 4 grains of lime daily. Assuming that the average daily amount of water consumed is about five-tumblers, the amount of lime daily introduced into the economy through this vehicle would not exceed 10 grains, assuming the water to be very hard. But the amount introduced in food is much more than this. A pint of milk, for example, contains more lime salts than a pint of lime water, the amount in milk being about 10 grains. Eggs, the cereals, and vegetables contribute their quota, and when the total amount of such foods consumed per day is taken into the calculation the ingestion of lime salts is clearly considerable, apart altogether from what may be taken in solution by drinking even the hardest water. It is probable that the amount of lime salts taken through food easily exceeds the quantity present in gallons of hard water; the use of distilled water therefore provides an ineffective method for preventing the mischief which it is assumed lime salts may do the body. Also the drinking of distilled water is opposed to physiological considerations and may produce injury to the organism. When cells are placed in distilled water the passage of the water into the cells rapidly occurs owing to a difference of osmotic pressure, and the cells swell up and may finally burst and die. This action, which can correctly be described as poisonous, is observed when distilled water is drunk, for in this case the surface layers of the epithelium of the stomach undergo considerable swelling; salts also may pass out and the cells die and be cast off. Such a process may well resolve itself into a catarrh of the stomach. There is a continental water which is remarkably pure but poisonous because it produces gastritis for the reasons just quoted. It is doubtful whether hard waters are unwholesome, but the inconvenience caused by the furring of domestic services and kitchen apparatus by the deposit of chalk from such waters is very real, and affords a just cause of complaint in many London districts. There are no expenses connected with the storage or filtration of the deep-well supplies in the metropolitan area, as is the case with the river supplies. The deep-well waters are neither stored nor filtered, and therefore they might be softened. The water so treated, however, would not have the qualities of distilled water, nor would its use avoid "bringing on old age."

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MODERN antimalarial measures aim at the destruction of the insect host of the specific parasites and the prevention of the transference of the latter from one host to the other. The methods generally employed for the extermination of mosquitoes are directed chiefly towards the abolition of their breeding places and the destruction of their eggs and larvæ. It has been regarded by many persons as absolutely futile to attempt to extirpate the mature insect in infected localities, though it is admitted by others that some temporary benefit might, perhaps, follow the reduction of the number of mosquitoes in a given area. It cannot be denied that the abolition of mosquito breeding places often involves the construction of engineering or sanitary works which cause considerable expense. This question of expenditure has been put forward as one of the main arguments against the adoption of the modern scientific methods of malaria prophylaxis, and it is obvious that such outlay could hardly be justified in the case of small communities, and more particularly of temporary camps within malarious districts. Our attention has been directed recently to this subject by an interesting paper published in our contemporary the *American Journal of Public Health* (Vol. III., No. 2) by Dr. A. J. Orenstein, assistant chief sanitary inspector, Isthmian Canal Commission. In this paper the value of "mosquito catching" in dwellings as a prophylactic measure against malaria, more especially in temporary encampments, is emphasised, and a description is given of the methods which this expert employs to effect his purpose. The various means used for killing mosquitoes, anophelines and others, include an ordinary "slapper" made of a 6-inch square wire gauze attached to a 2-foot stick; a glass phial, such as is commonly employed by entomologists for collecting insects, containing a plug wetted with chloroform; and, lastly, a mosquito trap devised by a member of his staff. With this equipment the mosquito catcher passes from hut to hut. If the dwellings be screened the catching is done early in the morning and again in the evening. If the hut be not screened and the anophelines are abundant, search for them is made four or five times daily. As proof of the success of his methods Dr. Orenstein quotes the results obtained by him in four camps situated in the jungle along the line of construction of the new Panama railroad, where some 1200 labourers were housed in "screened cars." Anophelines were very numerous, and but little could be done in the way of attacking the mosquito breeding places by which the camps were surrounded. By killing systematically day by day the mosquitoes found within the huts in the manner above described it was found possible at a trivial cost to keep for a period of two or more years the malaria incidence-rate in the camps practically as low as that of the remainder of the canal zone attack with cramp, nausea, pyrexia, and formation of a movable mass 2 inches in diameter, 2½ inches below and to the left of the umbilicus. The mass was tender for a few days and then it diminished. The bowels had a tendency to be loose. A few days later an operation was performed. A mass of about the size of half a lemon was found in the middle of the sigmoid flexure adherent to adjacent coils of bowel. There were some fresh adhesions from the recent attack and old and firm ones from previous attacks. The bowel was very œdematous and the fatty tissue about the diverticulum was much thickened and infiltrated. The mass was excised. In the diverticulum a mass of fæces of the size of a marble was found. The healing of the wound was delayed by a fæcal fistula. The early age—30 years—at which the diverticulum was found in this case is noteworthy. In some cases malignant changes take place. Thus a man, aged about 65 years, gave a history of good health until the last year, in which he had suffered from indefinite attacks of pain on the left side of the abdomen. When he was seen there had been complete obstruction of the bowels for two days. Nothing had been passed in spite of the administration of cathartics and enemata. On operation cancer of the sigmoid, presumed to be secondary to diverticulitis, was found. Primary resection was performed according to the method of Dr. W. J. Mayo, a large rubber tube being used to complete the anastomosis. While the patient was convalescing a fatal attack of pneumonia occurred.

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[1] Published by the Pottery Gazette in handbook form (8, Broadway, Ludgate-hill, London, E.C.).

RADIUM SPRINGS IN BRITISH COLUMBIA.

IN THE LANCET of March 11th, 1911, we published an analysis from our laboratory of samples of water taken from three springs situated in the Sinclair Pass in British Columbia. These springs are grouped on the east bank of the Columbia river, about 60 miles south of Golden and 13 miles north of Windermere. They are not far (some 50 miles) from the well-known sulphur waters at Banff, and altogether the district seems well served with mineral waters, but those in the Sinclair Pass would appear to be unique, inasmuch as recent investigation has shown that they are powerfully radio-active. The temperature of the waters is 115° F., so that they are correctly described as thermal. In considering the results of our analysis we pointed out the probability of the waters showing, when examined at the source, marked radio-active properties. Curiously enough, the mineral ingredients proved to be similar in kind and amount to those found in the Bath waters, which are also thermal and radio-active. The important observation has been made now that, apart from the emanations, the Sinclair water must contain, according to well-known methods of deduction, radium itself. Subsequent examination made at the laboratories of the McGill University, Montreal, showed that the Sinclair springs contain more radium and radium emanation than are present in the Bath waters. There should be a future for the application of these waters in therapeutics, since they show a radio-activity which is not equalled, as far as inquiry has gone, elsewhere. For a long time the waters have had a considerable local reputation in the treatment of gout, rheumatism, and skin diseases, and practice has furnished evidence that they are effective in ministering to those diseases which are known to be benefited by a course of radio-active treatment. It is believed that rich radium-bearing earths occur in the neighbourhood, a belief which we hope is well founded, since the world's supply so far is all too short for wide and effective medical treatment. We learn that deposits of pitchblende (uranium ore) have been found, and the belief is that these will show a valuable return of radium. Any augmentation of the supply of radium will be welcomed, for without this increased supply the science of radiotherapeutics must necessarily advance slowly.

SPIROCHÆTA PALLIDA IN GENERAL PARALYTICS.

IN a paper read before the St. Louis Medical Society and published in their *Weekly Bulletin* of June 5th, Dr. William W. Graves narrates the results of his experiences in attempts to cultivate or otherwise demonstrate the presence of the spirochæta pallida in the blood and spinal fluid of syphilitics. Search by means of dark-field illumination, Indian ink, or other ordinary methods only showed the presence of spirochætæ in three cases out of 500 specimens, two cases in which the blood was positive being florid syphilitics, and one in which the cerebro-spinal fluid revealed the presence of the organism being a case of lues spinalis. Cultivation on Noguchi's medium proved positive in two cases out of 130, the infection dating in one case from a period 30 years and in the other 23 years previously. The most interesting results were, however, obtained by inoculation of rabbits' testicles with blood from cases of general paralysis and tabes dorsalis. Two positive results were obtained, one in a patient who had contracted infection 18 years before, and the other in a man infected 14 years previously, both of whom showed definite symptoms of general paralysis. Distinct areas of induration developed in the animals, and typical spirochætæ were found in them, while one rabbit manifested in addition lesions of the eyelids and perineum in which also the organisms were recognisable. Dr. Graves has no doubt that the spirochætæ found were true pallidæ, as he had had the opportunity of studying some of Noguchi's cultures as well as ordinary syphilitic material. He believes that the organisms remain alive in syphilitic subjects for an indefinite time, and that symptoms may therefore flare up long after infection. Tabes and general paralysis would seem, if these observations are confirmed, to be true syphilitic lesions rather than parasyphilitic affections the result of past toxæmia. Until, however, these experiments have been repeated by other observers it will be well to suspend judgment as to these findings.

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A PLEA FOR THE APPOINTMENT OF A ROYAL COMMISSION ON VENEREAL DISEASE.

BY SIR MALCOLM MORRIS, K.C.V.O.

To insist in a medical journal that venereal diseases cannot be successfully combated so long as the State holds aloof from the conflict, and that the time has come for an investigation by a Royal Commission of the whole question of their prevalence and incidence and the best means of controlling them, is almost a work of superfluity. At first sight it seems strange enough that while the State compels local authorities to build asylums for the insane, encourages them to make provision for the segregation of cases of infectious fevers, enforces the notification of many infectious diseases, and laboriously builds up a vast system of public health legislation, it chooses to stand aside [illegible] contagious and so dire in its [illegible] baleful course unchecked by t[illegible] control. The anomaly can only be explained by reference to the reticence on sexual subjects which since the Puritan era has been a characteristic of the British mind. I have no intention of denouncing that mental habit At its best it is no offspring of the hypocrisy to which many critics have pleasantly attributed it. But none the less it is a disastrously mistaken counsel, the effect of which is to allow a free course in the body politic to gross evils which might be substantially checked were they but frankly recognised and boldly grappled with. Fortunately there are indications that the policy of silence is breaking down. The blast of public indignation which assisted the passage of the Bill to suppress what is popularly known as the white slave traffic, and the recognition of syphilis as a racial poison in works on social reform intended for general reading, are evidences that the more enlightened of the laity are coming to see that it is better to bring the force of public opinion to bear upon evil things than to ignore their existence. Surely it is not too much to hope that the Government will strengthen this essentially wholesome tendency by ordering a thorough exploration of the whole subject of venereal disease.

In these paragraphs I shall deal chiefly with syphilis partly because it is the venereal disease with which my work as a dermatologist has given me intimate familiarity, but also because, widespread as is gonorrhœa, and serious as are its consequences, especially in women, if left untreated, syphilis none the less forms much the more important branch of the subject. If the effects of this disease were confined to those who acquire it and those whom they directly infect with it, the State would still lie under an imperative obligation to do what it can to hinder its spread and mitigate its effects. But the case for legislative action becomes incomparably stronger in view of the fact that syphilis is one of the rare conditions that can be transmitted from parent to child, so that the offspring of a syphilitic may be born not with a mere predisposition to the disease, as in tuberculosis, but with the virus actually in its tissues, to cause, it may be, hideous deformity, or blindness, or deafness, or epilepsy, or idiocy, ending often in premature though not untimely death. Even that is an understatement of the case, for syphilis is a prolific cause of death before birth. In these days of a falling birth-rate and of an international rivalry in which the weight of numbers is one of the factors of national success or failure, a disease which is so frequent a cause of abortion, which at the best diminishes efficiency and at the worst consigns its victims to our asylums and infirmaries and workhouses and prisons, or to an early grave, cannot continue to be a matter of indifference to the State.

Syphilis of the Innocent.

The old view that syphilis is a divinely ordained penalty for illicit sexual indulgence, and that it is wrong, therefore, to seek to avert it, now seldom finds formal expression. Unconsciously, no doubt, it still colours the thought and feeling of many. But as a dogma it has gone the way of the argument which Simpson had to meet when he began to use chloroform to allay the pangs of difficult labour—that it was sinful to mitigate the penalty attached to childbearing as the result of [illegible] Eden. Even now, how [illegible] the extent to which [illegible]. Did they but know how large a proportion of those who contract these diseases are the innocent victims of cruel misfortune their attitude towards this subject would be sensibly affected. The babes who are infected before birth with syphilis or at birth with gonorrhœa which may cause irremediable blindness, the wives to whom these diseases are conveyed by their husbands, the children to whom the father's kiss communicates syphilis, the industrial workers who acquire it from the use of infected implements, the wet nurses who are contaminated by the children whom they nourish, the medical men and nurses and midwives who are inoculated with it in handling patients who may not be known to be syphilitic—these make up an immense multitude of those who are entirely innocent of moral wrong. A striking example of syphilis insontium was recently recorded by Dr. J. F. Schamberg, of Philadelphia[1]. Following a benefit performance, a company of youths and girls, whose ages ranged from 16 to 22, engaged in kissing games. One of the youths had a sore on the lip, and in due course six girls whom he kissed developed labial chancres, as also did a seventh girl whom he kissed at another party, while a young man was apparently infected by kissing one of the girls while the contagion was fresh upon her lip. Besides its immediate moral, the dangers of promiscuous kissing, the incident suggests more generally the perils of an ignorance of which the last thing that could be predicated is that it is "wise." It is more than time such ignorance were ended, and the State should no longer be a party to the conspiracy of silence which yields fruits such as these.

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MEDICINE AND THE LAW.

Liability for Infection with Puerperal Fever.

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A case in which a married woman died a few minutes after an injection of cocaine, given to her by an unqualified dentist, was before Mr. H. C. Yates, the coroner for Cheshire, on June 6th. The unqualified dentist, Ernest Edwards, of Nantwich, admitted having injected a quantity of cocaine into the woman's gums. He said he had 32 years' experience of dental work, but had never had such a case before. In summing up the coroner said he had searched but could not find any statute prohibiting any person who was not a qualified medical man or dental practitioner from administering anæsthetics or any other drug. But if an unqualified person who administered it led the public to believe that he was a qualified man he was liable to a penalty. He thought that in view of the fact that there was so much of this injecting going on by unqualified persons, the sooner something was done to prevent it the better it would be for the public. If the jury thought that Edwards was guilty of gross or culpable negligence in the way he performed the operation it would be their duty to put him upon trial for manslaughter, but it must be proved that the anæsthetic was the direct cause of death, and that it was not due to any contributory cause. He was bound to say in this case, although he did so with considerable reluctance, that he did not think there was sufficient evidence to place Edwards on his trial. The jury returned a verdict that death was due to misadventure, but added a recommendation that the law should be so amended as to prohibit the use of anæsthetics except by fully qualified practitioners. The coroner said he cordially agreed with the recommendation and would communicate it to the Home Office.

An Interesting Case for Compensation.

During the hearing of a compensation case at the Salford county court on June 9th Judge Mellor had before him a case for approval of a settlement of a compensation claim made by H. Clarke, aged 21, for loss of the sight of his left eye, caused through the bursting of a bottle in September last. It was stated that the medical opinion was to the effect that the young man could now return to work, and that he had agreed to accept £80 and costs in commutation of any liabilities that might arise in the future. The judge remarked that the "workman" in this case was practically only a boy. For such an accident as this he certainly should not allow him to settle for less than £80, in addition to the cost of having an artificial eye put in. Continuing, the judge said, "I have now been here sufficiently long to have a tabulated idea as to the value of every limb and every part of a man's frame." Before he consented to settlement he should at least insist on being assured by medical evidence that future removal of the injured eye could not affect the remaining one. The case was adjourned for medical evidence to be called.

RESEARCH DEFENCE SOCIETY.

THE annual meeting of the Research Defence Society was held at the Royal College of Physicians of London on June 24th, when Sir **DAVID GILL** presided.

The Right Rev. Bishop **FRODSHAM** said that the society had fully justified its existence, and had done a great deal to create a healthy public opinion with regard to a subject which had been much misrepresented. Scientific research was shown not to be contrary to the principles of Christianity.

Mr. **SYDNEY HOLLAND**, in moving the adoption of the report of the committee, which stated that the society was steadily gaining recognition and exercising more influence over public opinion, having during the year recruited more than 400 members and associates, referred to the decision of the committee to open a number of shops to counteract the influence of the Antivivisection Society, and remarked that that was one of the best possible ways of promoting the cause of true science and true humanity. Referring to the Bills for the protection of dogs which were at present before Parliament, one of which had already passed a second reading, he showed that the animals themselves had benefited by research, instancing, among other things, inoculation for distemper.

The motion was seconded by Sir **HUGH BELL** and adopted.

The Treasurer's report, which was submitted by Dr. F. M. **SANDWITH**, stated that last year the subscriptions received by the parent society showed an excess of £113, while the contributions from branches were also £100 in excess of the previous year. On the present occasion, the report pointed out, the subscriptions to the parent society show a diminution of £106, while the contributions from the branches only slightly exceed the amount paid during 1911. This is presumably not due to any loss of interest in the society, but rather to the fact that many supporters consider it unnecessary to continue their subscriptions after the issue of the report of the Royal Commission on Vivisection.

Sir **DAVID GILL** in his presidential address, after referring to the need for the existence of the Research Defence Society in protecting science from the disastrous effects which would follow the kind of legislation which certain people were advocating, said that in order to combat the misleading statements of their opponents it was proposed to open a shop in London where the truth about the Research Society could be put before the public day by day, and for this purpose £600 were required, of which £340 had already been received. He urged the public before joining any of the antivivisection societies to read the final portion of the report of the Royal Commission which was published last year.

Lord **CROMER**, referring to the non-election of Lord Cheylesmore to the council of the Royal Society for the Prevention of Cruelty to Animals, said he had instituted a protest as he believed the result was due to a snap vote. If Lord Cheylesmore was not replaced on the council of the Royal Society for the Prevention of Cruelty to Animals he himself would withdraw from the society and he hoped others would do the same.

Sir **THOMAS BARLOW**, President of the Royal College of Physicians of London, explained that the College was grateful to the Research Defence Society for the work which it had done in defending men who could not well defend themselves from serious misrepresentation. All who were engaged in the practice of medicine and surgery who were not themselves able to carry on the experiments necessary for the advance of science and the amelioration of human suffering acknowledged the courage, energy, and spirit of the society.

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THE WELSH NATIONAL MEMORIAL AND THE POSITION OF THE COUNTY COUNCILS.

To the Editor of THE LANCET.

SIR,—Mr. Gwilym Hughes must be of an optimistic temperament if he honestly is satisfied with the general feeling with regard to the National Memorial scheme.

It [illegible] scheme is distasteful to the [illegible] officers of health and to [illegible]ners, and without the sympathy of these men success cannot result. The Pembrokeshire county council are forwarding to the Commissioners their own scheme for approval, which is, in their opinion, less elaborate, less extravagant, and more efficacious, and which leaves the control of public health where it ought to be—in the hands of the county sanitary authority and their medical officer of health.

A scheme that has an income from invested capital of £6000 a year and which pays £8000 a year in salaries is hardly likely to have a prosperous career unless it is heavily supported by the rates.

I am, Sir, yours faithfully,

A. HURRELL STYLE, M.D. Cantab.,
Member, Pembrokeshire County Council.

Pembroke, June 23rd, 1913.

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WHEN TO DIAGNOSE APPENDICITIS.

To the Editor of THE LANCET.

SIR,—Whilst eminent surgeons have been discussing in your columns the important question of "When to operate in appendicitis," many a practitioner must have been perplexed on the question of early diagnosis of the same disease in actual practice. If he is to follow out the most up-to-date teachings he must be prepared to take the responsibility of either calling in a surgeon or sending the patient to hospital.

There must be a perfect understanding between the practitioners and the hospitals so that any case sent to hospital on the written recommendation of a medical man should receive due and tactful consideration, otherwise the desirable rule of getting patients early into the hands of a surgeon will not be observed. To make my meaning clearer the following account of an incident which happened recently will suffice.

I was asked to see a young woman who complained of intense agony over the region of the appendix on examination. She had been seen some ten hours previously by a colleague, who diagnosed appendicitis and treated her accordingly. In the interval her symptoms had increased. I agreed with the diagnosis and considered the case one fit for operation. I wrote on a visiting card my diagnosis and recommendation and sent her to a London hospital. The next day I was sent for and informed that she had been examined at the hospital, given some medicine, and sent home and told to come back in the morning. I again examined her and found that her symptoms had further increased, and in addition she had retention of urine, due no doubt to drugs. I emptied the bladder with a catheter, but this did not cause the acute pain over the appendix to diminish. She was sent to another London hospital, where she was operated upon at once.

There is no suggestion of any neglect in this short account of what happened, as I am aware of the large number of trivial cases which go or are sent to our large hospitals. I do suggest that when a medical man gives his written diagnosis of appendicitis to a patient the hospital authorities should take into consideration the position of the medical attendant, who, amongst other things, is losing a patient by his procedure.

To give a definite written diagnosis of appendicitis and to take the responsibility of sending to hospital, and then to have the patient sent home without being admitted, is not going to increase one's desire to make attempts at early diagnosis of appendicitis, and it certainly cannot improve one's reputation locally. When the same case is operated upon next day in another London hospital one is inclined to doubt whether all that has been written in the columns of THE LANCET on the question of appendicitis and its operation has been fully appreciated both inside and outside the walls of our large hospitals.

I am, Sir, yours faithfully,

Castle-court, Cornhill, E.C., June 23rd, 1913. J. J. SCANLAN.

A NEW SPIROCHÆTA FOUND IN HUMAN BLOOD.

To the Editor of THE LANCET.

SIR,—*My attention has been directed to a paper by Dr.* Helen Chambers in THE LANCET for June 21st entitled "A New Spirochæta found in Human Blood," and recording the discovery of a spirochæte in the blood in Graves's disease and also in the blood of a certain number of healthy persons. I fear there can be little doubt that Dr. Chambers has fallen into error, and has mistaken the results of certain curious changes which occur in red cells for spirochætæ. Certainly, Fig. 1 of her article, which is supposed to represent the spirochætæ as seen by dark ground illumination, is merely a very excellent picture of these alterations which were first described by Nuttall and Graham Smith, and with which I have dealt fully in my paper on Fallacies and Puzzles in Blood Examination in Vol. A of the Fourth Report of the Wellcome Tropical Research Laboratories at Khartoum (1911).

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Some four years ago I was cautioned by Dr. Charles Slater, then bacteriologist to St. George's Hospital, against mistaking for streptococcal chains bodies having a somewhat similar appearance that are met with in fresh preparations made from broth flasks inoculated previously with human blood. Since then, often having to examine bloods for the presence of organisms, I have constantly come across these bodies, to which I have given the name "filiform bodies." Looking through the notes that I have made since 1910 in connexion with these bodies I feel sure that the "spirochætæ" seen by Dr. Helen Chambers and the "filiform bodies" noticed by me are identical. It was suggested to me in February, 1912, by some one to whom I was demonstrating these filiform bodies under the microscope with dark-ground illumination, that they were little threads of fibrin.

If you could afford me space I should like here to mention a few facts in connexion with these bodies in the hope that some light may be thrown on their true nature.

1. If a little blood be taken from a finger under aseptic conditions, mixed with an equal volume of 2 per cent. sodium citrate in a sterile tube, and this plugged with sterile wool and placed at 37° C. for 24 hours and then examined by dark ground illumination, these filiform bodies may be seen. In this case the blood has not clotted—at least in the ordinary sense of the word.

2. If a clean sterile cover glass be taken and a small drop of blood from the finger obtained aseptically be placed on this and the cover then inverted and dropped on to a clean sterile slide and this cover glass preparation of fresh blood be then ringed round with vaseline the specimen may be kept for 24 hours or so and frequently observed. If this method is used the following phenomena may be noticed: (*a*) when the specimen is at once examined by dark ground illumination and a part chosen for examination where the red cells lie separate (1) [illegible] number of dancing b[illegible] few or many, (3) no [illegible] filaments are to be seen lying in the spaces between the red cells. Such a state of affairs may exist for an hour, and

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St. George's Hospital exceeds, I believe, £5000, whereas the sum which has caused the discussion with the King's Fund is very much smaller. It must be to the advantage, therefore, of St. George's Hospital to fall into line with all the other medical schools throughout London, and to end this controversy by adopting the resolution submitted on behalf of the house committee by Mr. Keyser.

It is notable that although a very full attendance of governors was reported only 29 voted, a majority of whom were, I believe, members of the medical staff.

I am, Sir, yours faithfully,

Porchester-square, W., June 23rd, 1913. HENRY C. BURDETT.

THE INGESTION OF BACTERIA BY THE SUBEPITHELIAL LYMPHATIC GLANDS IN HEALTH.

To the Editor of THE LANCET.

SIR,—My attention has been attracted by the interesting article by Dr. Kenelm H. Digby which appeared under the above title in THE LANCET of June 21st, p. 1731.

When in 1907 I first made a contribution on this subject[1] to THE LANCET I also was unaware of any previous work having been done on it. I find that on that occasion, as well as in a brochure published by me in the same year,[2] I advanced the hypothesis which Dr. Digby advanced in THE LANCET of Jan 20th, 1912. Since then I have made several other contributions on this subject.[3] It is gratifying to me to find my views so well supported by a pathologist of Dr. Digby's ability. For with him I feel that this important physiological subject has been allowed to slip into the background. The only real progress that can be said to have been made since Metchnikoff's discovery of phagocytosis in 1877 was that by his pupil Armand Ruffer.[4] Phagocytosis was realised by him to be merely one link in the chain of the process of the reactive mechanism of bodily defence. It was he who brought out the further important fact that the phagocytes not only came to the surface *from* the lymphoid or lymphatic gland that was concerned, but that after performing phagocytosis they re-entered the tissues without damage to them, making for the radicles of the lymphatic duct *in situ*, along and external to which he found them in great numbers. This observation was confirmed by certain other [illegible] only noticeable through the skin; it was not possible to observe it through the mucous membranes—in which situation it may safely be assumed to be a more common occurrence.

Dr. Digby uses the expression "subepithelial lymphatic glands"; unless a ranula may be said to be such, I have never heard of one before. To confound the solitary or the aggregate lymphoid gland with the lymphatic gland, which is, as a rule, seen to be remote from the epithelial surface to which it is physiologically related, is, in my humble opinion, a serious matter. It is true that the lymphoid and lymphatic systems of glands are so closely related it is difficult to discuss them apart. But they are, in fact, quite apart physiologically and anatomically. This I am hoping to show in a paper on which I am at present engaged. As the author in his former paper doubts the existence of lymphoid glands in the skin, owing to its greater keratinous protection, I beg to point out that the modified lymphoid glands of the skin are "the large prickle cells" of Malpighi. These are those that hypertrophy when they come into function in vaccination for variola; they form the sides of the umbilication. Similar evidences of their function are to be met with in a host of *exogenous* skin infections.

One more point and I have done. When the author says, "Solitary bacteria and cells loaded with bacteria can also be seen in their passage through the epithelium," he seems to imply that the bacteria possess powers of penetration as much as the phagocytes This I have endeavoured to show cannot possibly be the case with non-flagellates. Ruffer himself drew attention to the fact that bacteria found under the mucous surface must have been "phagocyted" to be conveyed thither; that they could not otherwise penetrate the undamaged surface either by their motility, if any, or by chemiotaxis. Chemiotaxis would seem to be more a function of the phagocyte than of bacteria in such situations.

I am, Sir, yours faithfully,

Harley-street, W., June 21st, 1913. H. D. MCCULLOCH.

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[1] THE LANCET, vol. I, 1907. Ibid, 1908.

[2] Stray Leaves and some Fruit, &c., John Bale, Sons, and Danielsson, London.

[3] THE LANCET. Brit. Med Jour., 1908 Proceedings of the Royal Society of Medicine, 1912-13.

[4] [illegible] Jour., 1890.

[illegible] us completely. [illegible]

[6] THE LANCET, May 17th, 1913.

THE LATE DR. RODERICK MACLAREN.

To the Editor of THE LANCET.

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I am, Sir, yours faithfully,

JOHN COLLIE.

Porchester-terrace, Hyde Park, W, June 23rd, 1913.

ANOMALIES OF THE LUNACY LAW.

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SIR,—We appreciate your notice of our reprint on Lunacy Law. At the same time we think one passage in your annotation last week bearing this title calls for comment from us. We refer to your criticism of our choice of lawyers in place of specially appointed justices in regard to reception orders and other judicial matters. You suggest medical men. Our reason for suggesting lawyers was (and *is*) the fact that already two medical men are parties to reception orders. As the duties of the specially appointed justices are legal ones, and not medical, we feel that a lawyer is better equipped to undertake such functions as we suggest than a medical practitioner.

We recognise, however, the value of your criticism, particularly in regard to the present system that practically allows

St. George's Hospital exceeds, I believe, £5000, whereas the sum which has caused the discussion with the King's Fund is very much smaller. It must be to the advantage, therefore, of St. George's Hospital to fall into line with all the other medical schools throughout London, and to end this controversy by adopting the resolution submitted on behalf of the house committee by Mr. Keyser.

It is notable that although a very full attendance of governors was reported only 29 voted, a majority of whom were, I believe, members of the medical staff.

I am, Sir, yours faithfully,

Porchester-square, W., June 23rd, 1913. HENRY C. BURDETT.

THE INGESTION OF BACTERIA BY THE SUBEPITHELIAL LYMPHATIC GLANDS IN HEALTH.

To the Editor of THE LANCET.

SIR,—My attention has been attracted by the interesting article by Dr. Kenelm H. Digby which appeared under the above title in THE LANCET of June 21st, p. 1731.

When in 1907 I first made a contribution on this subject[1] to THE LANCET I also was unaware of any previous work having been done on it. I find that on that occasion, as well as in a brochure published by me in the same year,[2] I advanced the hypothesis which Dr. Digby advanced in THE LANCET of Jan 20th, 1912. Since then I have made several other contributions on this subject.[3] It is gratifying to me to find my views so well supported by a pathologist of Dr. Digby's ability. For with him I feel that this important physiological subject has been allowed to slip into the background. The only real progress that can be said to have been made since Metchnikoff's discovery of phagocytosis in 1877 was that by his pupil Armand Ruffer.[4] Phagocytosis was realised by him to be merely one link in the chain of the process of the reactive mechanism of bodily defence. It was he who brought out the further important fact that the phagocytes not only came to the surface *from* the lymphoid or lymphatic gland that was concerned, but that after performing phagocytosis they re-entered the tissues without damage to them, making for the radicles of the lymphatic duct *in situ*, along and external to which he found them in great numbers. This observation was confirmed by certain other [illegible] only noticeable through the skin; it was not possible to observe it through the mucous membranes—in which situation it may safely be assumed to be a more common occurrence.

Dr. Digby uses the expression "subepithelial lymphatic glands"; unless a ranula may be said to be such, I have never heard of one before. To confound the solitary or the aggregate lymphoid gland with the lymphatic gland, which is, as a rule, seen to be remote from the epithelial surface to which it is physiologically related, is, in my humble opinion, a serious matter. It is true that the lymphoid and lymphatic systems of glands are so closely related it is difficult to discuss them apart. But they are, in fact, quite apart physiologically and anatomically. This I am hoping to show in a paper on which I am at present engaged. As the author in his former paper doubts the existence of lymphoid glands in the skin, owing to its greater keratinous protection, I beg to point out that the modified lymphoid glands of the skin are "the large prickle cells" of Malpighi. These are those that hypertrophy when they come into function in vaccination for variola; they form the sides of the umbilication. Similar evidences of their function are to be met with in a host of *exogenous* skin infections.

One more point and I have done. When the author says, "Solitary bacteria and cells loaded with bacteria can also be seen in their passage through the epithelium," he seems to imply that the bacteria possess powers of penetration as much as the phagocytes This I have endeavoured to show cannot possibly be the case with non-flagellates. Ruffer himself drew attention to the fact that bacteria found under the mucous surface must have been "phagocyted" to be conveyed thither; that they could not otherwise penetrate the undamaged surface either by their motility, if any, or by chemiotaxis. Chemiotaxis would seem to be more a function of the phagocyte than of bacteria in such situations.

I am, Sir, yours faithfully,

Harley-street, W., June 21st, 1913. H. D. MCCULLOCH.

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[1] THE LANCET, vol. i, 1907. Ibid, 1908.

[2] Stray Leaves and some Fruit, &c., John Bale, Sons, and Danielsson, London.

[3] THE LANCET. Brit. Med Jour., 1903 Proceedings of the Royal Society of Medicine, 1912-13.

[4] [illegible] Jour. 1890.

[illegible]

[6] THE LANCET, May 17th, 1913.

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We recognise, however, the value of your criticism, particularly in regard to the present system that practically allows mediocrity,' but that their work renders it essential that they should be good general practitioners His very excellent article makes it unnecessary to advance further arguments for the appointment of consultants but he does not consider certain of the difficulties

The advantage of having at call a highly trained surgeon will be admitted by every medical superintendent The latter must always be the first court of appeal for his assistants in any doubtful case, and if he can refer the problem to one of a group of specialists he will find his position easier But this affords another opportunity for that shifting of responsibility which is the curse of Poor law work In an emergency the nurse at once summons the medical officer of the ward, he will submit the matter to the medical superintendent If it be an administrative question the latter will refer it to his special committee, if it be a professional one he will lay it before the consultant if there be one To recognise one's limitations is a priceless gift, but its possession invites the risk of shirking Certain infirmaries already possess a consulting surgeon and it of the l law system— has b it rec ly appointed the idea of appointing a spitals is absurd Nowhere in the world apart from themselves could there be found such a matured knowledge of the infectious fevers as the medical superintendents of the Asylums Board's institutions have acquired

Again many skilled surgeons reside in Poor law infirmaries and it is not an unheard of event for the assistant medical officers to work at some special hospital as clinical assistants Another point is this a visiting physician enjoys the opportunity of testing new therapeutic discoveries and here is a chance for the clashing of wills when the medical superintend the cry of 'experimenting his committee or by some ct is not mentioned by the contributor to the *Morning Post* who speaks rather of the development of science No development is possible when the most ordinary technique of clinical pathology is condemned by laymen as conducting experiments on those who are unable to leave the institution There is further, the consider f an honorary staff would of appointment by the ass could no longer do independent work, but would have to refer all things to the visiting man as they did in their raw youth The man who takes an infirmary appointment without having performed the severe but priceless drudgery of a residentship in a general hospital is fortunately uncommon but the others who have undergone this training are not likely to be gratified at the prospect of continuing it indefinitely

For certain reasons the proposed reform would be welcome but it will have to be devised with punctilious care and due foresight of its possible drawbacks

I am, Sir, yours faithfully,

June 13th 1913 SCAZON

WORKMEN'S COMPENSATION ACT A QUESTION

To the Editor of THE LANCET

SIR,—I should like your views on the following subject I am surgeon to a small general hospital which is entirely provided and paid for by the employees of one of our large industrial concerns During the course of the year I am called upon to do a number of radical cures for hernia These men nearly always receive "compensation and if the case does go to court they generally win the day This morning I was asked by the "compensation department of the employers to allow their "compensation surgeon to be present at my hernia operations I refused as I consider such a position to be untenable if to be pursued as a custom in even a voluntary institution but much more untenable in a private hospital Moreover the proposal smacks somewhat offensively of a lack of confidence in my good faith both in the operating theatre and in the witness box Not only do I object on the grounds mentioned above but I further object on the ground of the possibility of an academic discussion arising in the theatre over an unconscious patient with its inevitable accompanying interruption and delay There is no parallel between a post mortem examination and an operation as the employers would like to imply, and I know of no hospital where such a course is pursued in the operating theatre

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IRELAND

(FROM OUR OWN CORRESPONDENTS)

The Dublin Insurance Committee

IT is not only the medical profession of Dublin who object to the recent action of the Insurance Commissioners in appointing "medical advisers for Dublin and the adjacent urban districts The Dublin County Borough Insurance Committee at its meeting on June 19th decided by a large majority that, if applicants for sanatorium benefit were to be compelled to secure certificates from one of the 'medical advisers as it had been notified by the Commissioners would be the case the committee would decline to administer the benefit Hitherto the Insurance Committee has received preliminary reports from the applicant's own medical attendant and has paid a fee of 5s for each report and it does not appear that the Commissioners have power to dictate to the committee as to the manner in which it is to administer the benefit

The Conjoint Committee

At a meeting of the Conjoint Committee held last week arrangements were made for the holding of a delegates meeting representative of the profession in July Resolutions were passed by the Conjoint Committee regretting the action of the Commissioners in appointing 'medical advisers' in the county boroughs of Dublin Waterford and Limerick and in threatening to adopt similar measures in other areas and condemning their action as a Government department in offering preferential treatment as an inducement to medical men to join the panels contrary to the expressed decision of the profession in their areas The action of the Commissioners was stigmatised as intimidatory and in view of the altered circumstances the committee suggest that the local Medical Committees should reconsider their action in advising their members to go on the panel for certification They also call upon the universities colleges and hospitals to use their influence in preventing recently qualified -ments under the e wishes of the

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At the Coleraine board of guardians on June 21st Dr T J Creery, dispensary medical officer for Coleraine applied for assistance for two months owing to the fact that the dispensary attendance had increased by more than a third during the past six months The clerk stated that the patients now as before the Insurance Act could avail themselves of the medical benefits under the Poor law system of dispensary aid, but insured persons now sent for the doctor on the least illness to get a sickness benefit certificate and the doctor was required to be in constant attendance on each case until the patient resumed work His only remuneration for the extra work thus entailed was the 1s 3*d* per head for certification for each person on his panel It was decided by the casting vote of the chairman to appoint for two months an assistant at a salary of two guineas weekly

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The Protection of Infants.

The committee for the protection of infants in Prussia held a meeting recently, Dr. von Behr-Pinnow being in the chair. The meeting was attended by representatives of the Government and by numerous medical men, teachers, clergymen, and members of women's societies. The chairman stated that the vital statistics for the year 1911 were rather unfavourable, the increase of the population being 100,000 less than the average. One-third of this might be attributed to the decrease of births, one-third to general mortality, and one-third to infant mortality. This could have been avoided if all the scientific preventive methods had been used, as was shown by the fact that in localities where there was a well-organised system for the protection of infants the mortality had not increased. The year 1912 showed a remarkable improvement, as both the general mortality and the infant mortality were lower than they had ever been. Dr. Rott, of Berlin, gave a report on the subject of granting assistance to mothers nursing their infants. Such has existed in France since the beginning of the nineteenth century, and in the city of Augsburg in Germany for some 50 years, but a systematic organisation of this kind throughout Germany only began in the year 1905, wher [illegible] r. Oppenheimer. The [illegible] stem have led to its es [illegible] aid being given to the suckling mothers either in money or in food. In the majority of cases a litre of milk was given daily free of charge for a quarter of a year. In five cities rooms were provided in factories where the mothers working in the factory might suckle their infants. The expenses for that support of the mothers were rather considerable, being 180,000 marks (£9000) for the city of Berlin, and the funds collected for the purpose were constantly increasing. Dr. Paul, a town councillor of Magdeburg, said that in that city mothers were supported from the fifth until the fifteenth week after the birth of their infants in winter, but that the support was given in summer immediately after birth, and continued until the sixth month. Unmarried mothers and married mothers whose husbands earned less than 1050 marks (£52 10*s.*) per annum were entitled to be assisted, on condition that they nursed their children themselves and came regularly at the appointed time to have their infants examined in the municipal dispensary. Dr. Thiemich, of Magdeburg, said that assistance was given to mothers either as an incentive to them to avoid too early weaning of the infant in cases where the social condition of the mother would allow the continuation of suckling; or, on the other hand, it was given as a support to very poor mothers intending to wean their children for financial reasons. Dr. Freund, of Breslau, said that not much was done for children after the infant age until the time when they began going to school. The mortality among infants was considerable, but during the next few years of life it was rather small. Tuberculosis and rickets were especially common, the causes being not only bad housing conditions and insufficient food but also a want of knowledge on the part of the mothers of the proper methods of bringing up children. Homes for weak, backward, and invalid children were a necessity. Dr. Gottstein, chief medical officer of the city of Charlottenburg, said that the care of children from infancy until the school age should be under the control of the same medical officer until they came under the care of the medical officer of the schools, and would thus be under continuous supervision. The organisation for the care of young children should be in connexion with dispensaries for tuberculosis, dental clinics, &c. In this way a history of the health of every child could be prepared and given to the medical officer of the school so that he might have some information as to the condition of health of each child.

Calcareous Deposits under the Skin.

An interesting case of calcareous deposit under the skin was shown by Dr. Gontermann, of Spandau, at a recent meeting of the Berlin Medical Society. There was no history of gout in either the patient or her family; the first symptom developed when she had been cutting bread with a knife for about half an hour, so that there had been much pressure exerted on the region of the fourth metacarpo-phalangeal joint. At that spot a bunion formed under which a nodule developed, and this in course of time became enlarged without being painful. Two years later, however, a number of new nodules of different sizes developed, all lying free in the subcutaneous tissue. By an exploratory incision it was found that they had a very smooth capsule and were nowhere adherent to the skin, and by radiography it was ascertained on different occasions that they had grown in the direction of the ramification of the vessels. Professor Hansemann, who had examined one of the growths, found that it consisted of amorphous carbonate of lime with a small quantity of phosphate of lime. The etiology was rather obscure; the pressure of the handle of the knife on the patient's hand was certainly the cause of the first deposit. After sustaining this injury she contracted syphilis, and Professor Hansemann suggested that this circumstance might have contributed to the further development of new growths. Such cases are very rare, as only four have hitherto been described in medical literature.

Performance of a Stage Play in the Interest of Public Health.

At the instance of the German Society for the Prevention of Sexual Diseases, the drama "Les Avariés," by the French author, M. Brieux, has been represented in a German translation in the "Deutsche Theater," which belongs to Herr Reinhardt, the producer of the "Miracle." The drama is based on the sad story of a man who became syphilitic, and it shows the sequelæ of syphilis in wedlock. It is designed to give the public a clear insight into the matter in a more efficacious way than is possible by lectures and pamphlets. The first performance took place on June 23rd.

June 24th.

THE CORONERS' SOCIETY OF ENGLAND AND WALES.—The annual banquet of this society was held on June 19th at the Holborn Restaurant, London, under the chairmanship of Mr. T. E. Sampson, J.P., coroner for Liverpool and president for the ensuing year. The toast of "The Law and Medicine" was proposed in an amusing speech by Dr. R. W. Gibson, who touched on the debt which the community owed to both professions. The reply was entrusted to Mr. C. L. Samson, president of the Incorporated Law Society, and to Dr. W. H. Willcox, senior scientific analyst to the Home Office. Dr. Willcox in his speech paid a tribute to the work done by coroners and expressed the opinion that in the coroners' courts medical evidence was heard at its best. The toast of the "Coroners' Society" was submitted by Mr. Branfield, president of the Liverpool Law Society, who spoke in terms of warm appreciation of the chairman and indicated the pleasure with which his fellow citizens had learnt of the honour conferred upon him by the society. The President, in reply, dwelt on the importance of the coroner's office and the opportunities which it offered for the expression of sympathy with those in affliction. Dr. F. J. Waldo, Vice-President, proposed the health of "The Visitors," and in welcoming the various official guests of the society referred briefly to the prospects of improvement in the existing coroners' law. Sir William Byrne, Assistant Under Secretary to the Home Office, and Mr. Percy Simmons, L.C.C., responded on behalf of the guests, and each dwelt on the pressing need for legislation giving effect to the findings of the Departmental Committee on Coroners' Inquests. The concluding toast, that of "The Officers of the Society," was very heartily received. Between the speeches an enjoyable musical programme was carried out under the direction of Mr. Arthur Winter. To the honorary secretary of the society, Mr. Walter Schröder, congratulations are due on the success of the evening.

universities, 17 to training schools for midwives, 5 to municipalities, and 10 to benevolent institutions. In those hospitals 33,990 births took place, with 4487 operations; among the patients operated on there were 188 deaths. Puerperal fever occurred in 135 cases, with 61 deaths. Of the children born in the hospitals 1854 were stillborn, whilst 1104 died afterwards during the stay of the mother in the hospital, and there were 1433 cases of premature birth. The number of special ophthalmic hospitals with at least 10 beds was 96, of which 10 belonged to universities, 3 to provincial corporations, 3 to municipalities, 5 to benevolent societies, and 52 to private individuals. The total number of patients was 33,307, who stayed in the hospitals for 742,257 days in all, so that the average residence of a patient in hospital was 22·3 days.

The Protection of Infants.

The committee for the protection of infants in Prussia held a meeting recently, Dr. von Behr-Pinnow being in the chair. The meeting was attended by representatives of the Government and by numerous medical men, teachers, clergymen, and members of women's societies. The chairman stated that the vital statistics for the year 1911 were rather unfavourable, the increase of the population being 100,000 less than the average. One-third of this might be attributed to the decrease of births, one-third to general mortality, and one-third to infant mortality. This could have been avoided if all the scientific preventive methods had been used, as was shown by the fact that in localities where there was a well-organised system for the protection of infants the mortality had not increased. The year 1912 showed a remarkable improvement, as both the general mortality and the infant mortality were lower than they had ever been. Dr. Rott, of Berlin, gave a report on the subject of granting assistance to mothers nursing their infants. Such has existed in France since the beginning of the nineteenth century, and in the city of Augsburg in Germany for some 60 years, but a systematic organisation of this kind throughout Germany only began in the year 1905, wher [illegible] r. Oppenheimer. The [illegible] stem have led to its es [illegible] aid being given to the suckling mothers either in money or in food. In the majority of cases a litre of milk was given daily free of charge for a quarter of a year. In five cities rooms were provided in factories where the mothers working in the factory might suckle their infants. The expenses for that support of the mothers were rather considerable, being 180,000 marks (£9000) for the city of Berlin, and the funds collected for the purpose were constantly increasing. Dr. Paul, a town councillor of Magdeburg, said that in that city mothers were supported from the fifth until the fifteenth week after the birth of their infants in winter, but that the support was given in summer immediately after birth, and continued until the sixth month. Unmarried mothers and married mothers whose husbands earned less than 1050 marks (£52 10*s.*) per annum were entitled to be assisted, on condition that they nursed their children themselves and came regularly at the appointed time to have their infants examined in the municipal dispensary. Dr. Thiemich, of Magdeburg, said that assistance was given to mothers either as an incentive to them to avoid too early weaning of the infant in cases where the social condition of the mother would allow the continuation of suckling; or, on the other hand, it was given as a support to very poor mothers intending to wean their children for financial reasons. Dr. Freund, of Breslau, said that not much was done for children after the infant age until the time when they began going to school. The mortality among infants was considerable, but during the next few years of life it was rather small. Tuberculosis and rickets were especially common, the causes being not only bad housing conditions and insufficient food but also a want of knowledge on the part of the mothers of the proper methods of bringing up children. Homes for weak, backward, and invalid children were a necessity. Dr. Gottstein, chief medical officer of the city of Charlottenburg, said that the care of children from infancy until the school age should be under the control of the same medical officer until they came under the care of the medical officer of the schools, and would thus be under continuous supervision. The organisation for the care of young children should be in connexion with dispensaries for tuberculosis, dental clinics, &c. In this way a history of the health of every child could be prepared and given to the medical officer of the school so that he might have some information as to the condition of health of each child.

Calcareous Deposits under the Skin.

An interesting case of calcareous deposit under the skin was shown by Dr. Gontermann, of Spandau, at a recent meeting of the Berlin Medical Society. There was no history of gout in either the patient or her family; the first symptom developed when she had been cutting bread with a knife for about half an hour, so that there had been much pressure exerted on the region of the fourth metacarpo-phalangeal joint. At that spot a bunion formed under which a nodule developed, and this in course of time became enlarged without being painful. Two years later, however, a number of new nodules of different sizes developed, all lying free in the subcutaneous tissue. By an exploratory incision it was found that they had a very smooth capsule and were nowhere adherent to the skin, and by radiography it was ascertained on different occasions that they had grown in the direction of the ramification of the vessels. Professor Hansemann, who had examined one of the growths, found that it consisted of amorphous carbonate of lime with a small quantity of phosphate of lime. The etiology was rather obscure; the pressure of the handle of the knife on the patient's hand was certainly the cause of the first deposit. After sustaining this injury she contracted syphilis, and Professor Hansemann suggested that this circumstance might have contributed to the further development of new growths. Such cases are very rare, as only four have hitherto been described in medical literature.

Performance of a Stage Play in the Interest of Public Health.

At the instance of the German Society for the Prevention of Sexual Diseases, the drama "Les Avariés," by the French author, M. Brieux, has been represented in a German translation in the "Deutsche Theater," which belongs to Herr Reinhardt, the producer of the "Miracle." The drama is based on the sad story of a man who became syphilitic, and it shows the sequelæ of syphilis in wedlock. It is designed to give the public a clear insight into the matter in a more efficacious way than is possible by lectures and pamphlets. The first performance took place on June 23rd.

June 24th.

THE CORONERS' SOCIETY OF ENGLAND AND WALES.—The annual banquet of this society was held on June 19th at the Holborn Restaurant, London, under the chairmanship of Mr. T. E. Sampson, J.P., coroner for Liverpool and president for the ensuing year. The toast of "The Law and Medicine" was proposed in an amusing speech by Dr. R. W. Gibson, who touched on the debt which the community owed to both professions. The reply was entrusted to Mr. C. L. Samson, president of the Incorporated Law Society, and to Dr. W. H. Willcox, senior scientific analyst to the Home Office. Dr. Willcox in his speech paid a tribute to the work done by coroners and expressed the opinion that in the coroners' courts medical evidence was heard at its best. The toast of the "Coroners' Society" was submitted by Mr. Branfield, president of the Liverpool Law Society, who spoke in terms of warm appreciation of the chairman and indicated the pleasure with which his fellow citizens had learnt of the honour conferred upon him by the society. The President, in reply, dwelt on the importance of the coroner's office and the opportunities which it offered for the expression of sympathy with those in affliction. Dr. F. J. Waldo, Vice-President, proposed the health of "The Visitors," and in welcoming the various official guests of the society referred briefly to the prospects of improvement in the existing coroners' law. Sir William Byrne, Assistant Under Secretary to the Home Office, and Mr. Percy Simmons, L.C.C., responded on behalf of the guests, and each dwelt on the pressing need for legislation giving effect to the findings of the Departmental Committee on Coroners' Inquests. The concluding toast, that of "The Officers of the Society," was very heartily received. Between the speeches an enjoyable musical programme was carried out under the direction of Mr. Arthur Winter. To the honorary secretary of the society, Mr. Walter Schröder, congratulations are due on the success of the evening.

[illegible]erie du "Journal de Leysin," J. Borloz, Aigle. Maloine, A., Rue de l'Ecole-de-Médecine, Paris.

[illegible] Études sur la Tuberculose. [illegible]

[illegible]enève. Price not stated.

[illegible]n, Henry, 263, High Holborn, London, W.C. Stenhouse, [illegible] 40 and 42, University Avenue, Glasgow.

[illegible] m Sophian, M.D., [illegible] Price 12*s.* 6*d.* net. [illegible] Francis Marion [illegible] of the Pottenger [illegible] Throat, Monrovia, [illegible]

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[illegible]ical Homes for Private Patients, 1913. Edited by R. Pritchard [illegible]innie. Price 6*d.* net.

[illegible]tt and Hughes, 33, Soho square, London, and 34, Cross-[illegible], Manchester.

[illegible] Stomach and Œsopha[illegible] Alfred [illegible] Barclay, M.A., M.[illegible] .P., [illegible]edical Officer to the [illegible] the [illegible]anchester Royal Infir[illegible]

[illegible]n, Marshall and Co., London. Fieldhouse, P.O. Box D. 50, [illegible]ersfield.

[illegible]ome-tax Simplified. By Arthur Fieldhouse, Accountant and [illegible]uditor, and E. Ewart Fieldhouse, B.A., LL.B. Second edition. [illegible]rice 1*s.*

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[illegible]n appointed Certifying [illegible]geon under the Factory [illegible] Acts for the Newcastle [illegible]rict of the county of Down.

[illegible]ran, P., L.R.C.P. & S. Irel., has been appointed Certifying [illegible]geon under the Factory and Workshop Acts for the Gortin [illegible]rict of the county of Tyrone.

[illegible] Mrs., M.D., C.M. Canada, has been appointed [illegible] Lecturer in [illegible]

Seligmann, C. G., M.D. Lond., F.R.C.P. Lond., has been appointed to the part-time Chair of Ethnology at the London School of Economics.

Stewart, A. G., M.D. Aberd., has been appointed Medical Superintendent of the Paddington Infirmary, W.

Wilkinson, Russell F., M.R.C.S., L.R.C.P., has been appointed House Surgeon at the Male Lock Hospital, Dean street, Soho.

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[illegible]—House Surgeon. [illegible] washing.

[illegible] Women.—Junior [illegible] board, residence, [illegible]

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[illegible] Chartham.—Junior Assistant [illegible] £220 per annum, with apart-[illegible]

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Car[illegible] Wales and Monmouth-[illegible]mbryology. Salary £200 per annum.

Chelsea Hospital for Women, Fulham road, S.W.—Clinical Assistants

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Dewsbury and District General Infirmary.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

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East London Hospital for Children and Dispensary for Women, Shadwell, E.—Resident Medical Officer. Salary £100 per annum, [illegible] laundry.

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Dr. G. Holmes:
Medica. H. MacCormac:
n.— 2.15 P.M., Mr.
Carl Medicine.
., Dr. F. Lang-
mead: A.M., Mr. R. E.
Bickert or Mr. Choyce:
Operati Demonstration.
2.15 P.M. Mr. Cargill:
Eye Clini
Medical.
Throat,
Turner:
AY.—Ou
Medical.
Skin.—
John Ro
Surgery.

—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Radiography.

NESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies).
P.M., Children's
Dr. G. N. Meachen;
Mr. W. Steuart): C
n (Dr. W. H.

FOR CONSUMPTION AND DISEASES OF THE CHEST,
on, S.W.
Y.—4.30 P.M., Lecture:—Dr. Fenton: The Modern
of Cardiac Arrhythmia.

ALYSED AND EPILEPTIC,

—Dr. G. Holmes: Treatment

Clinical Lecture:—Dr. G. Holmes: Visual

HOSPITAL FOR CHILDREN, *Board Room of the Hospital,*
N.E.
SDAY.—4 P.M., Dr. E. Bellingham-Smith: The Significance
"Cough and Wasting" in Childhood.

COURSES, Dublin.
Mechanism of Labour.
Operations.
., Class in Gynæcological Diagnosis.

ESDAY.—10 A.M., Obstetrical Lecture: Abnormalities in the Mechanism of Labour. 11 A.M., Examination of Patients and
or Operations
DAY.—10 A.M., Major Operations
Y—10 A.M., Gynæcological Lecture: Uterine Displacements (continued). 11 A.M., Examination of Patients and Minor Operations. 4 P.M., Class in Gynæcological Diagnosis.

ner particulars of the above Lectures, &c., see Advertisement Pages.

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ecially requested that early intelligence of local events g a medical interest, or which it is desirable to bring r the notice of the profession, may be sent direct to office.

original articles, and reports should be written on side of the paper only, AND WHEN ACCOMPANIED LOCKS IT IS REQUESTED THAT THE NAME OF THE AND IF POSSIBLE OF THE ARTICLE, SHOULD WRITTEN ON THE BLOCKS TO FACILITATE IDENTI-TION.

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METEOROLOGICAL READINGS.

(Taken daily at 8 30 a.m. by Steward's Instruments.)

THE LANCET Office, June 25th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks
June 19	30 05	W.	...	122	70	58	55	61	Cloudy
" 20	30 05	W.	0 19	118	66	53	55	58	Cloudy
" 21	30 08	E.	0 06	112	67	53	54	60	Fine
" 22	30 16	W.	...	118	74	56	58	62	Fine
" 23	30·10	S.W.	...	103	65	56	57	61	Overcast
" 24	30 11	W.	0 02	96	63	55	53	59	Cloudy
" 25	29·99	W.	0·01	107	65	53	53	57	Cloudy

Bucarest, Biochemical Journal, Archiv für Experimentelle Pathologie und Pharmakologie, Deutsche Zeitschrift für Nervenheilkunde, Journal of Physiology, Critic and Guide, Pacific Medical Journal, Albany Medical Annals, Interstate Medical Journal, American Journal of Obstetrics, Cleveland Medical Journal, Medical Review (St. Louis), &c.

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John Ro
Surgery.

—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Mr. C. Rowntree: Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.—10 A.M., Radiography.

NESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies).
P.M., Children's
Dr. G. N. Meachen
Mr. W. Steuart): C
n (Dr. W. H.

FOR CONSUMPTION AND DISEASES OF THE CHEST,
on, S.W.
Y.—4.30 P.M., Lecture:—Dr. Fenton: The Modern
of Cardiac Arrhythmia.

ALYSED AND EPILEPTIC,

—Dr. G. Holmes: Treatment

Clinical Lecture:—Dr. G. Holmes: Visual

HOSPITAL FOR CHILDREN, *Board Room of the Hospital,*
N.E.
SDAY.—4 P.M., Dr. E. Bellingham-Smith: The Significance
"Cough and Wasting" in Childhood.

COURSES, Dublin.
echanism of Labour.
Operations.
., Class in Gynæcological Diagnosis.
ESDAY.—10 A.M., Obstetrical Lecture: Abnormalities in the
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or Operations
DAY.—10 A.M., Major Operations
—10 A.M., Gynæcological Lecture: Uterine Displacements
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her particulars of the above Lectures, &c., see Advertisement Pages.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, June 25th, 1913.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radio in Vacuo	Maximum Temp Shade	Min. Temp	Wet Bulb	Dry Bulb	Remarks
June 19	30 05	W.	...	122	70	53	55	61	Cloudy
" 20	30 05	W.	0 19	118	66	53	55	58	Cloudy
" 21	30 08	E.	0 06	112	67	53	54	60	Fine
" 22	30 16	W.	...	118	74	56	58	62	Fine
" 23	30·10	S.W.	...	103	65	56	57	61	Overcast
" 24	30 11	W.	0 02	96	63	55	53	59	Cloudy
" 25	29·99	W.	0·01	107	65	53	53	57	Cloudy

Bucarest, Biochemical Journal, Archiv für Experimentelle Pathologie und Pharmakologie, Deutsche Zeitschrift für Nervenheilkunde, Journal of Physiology, Critic and Guide, Pacific Medical Journal, Albany Medical Annals, Interstate Medical Journal, American Journal of Obstetrics, Cleveland Medical Journal, Medical Review (St. Louis), &c.